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ABSTRACT

This curriculum guide describes and gives procedures for implementing the Comp Curriculum, which is composed of objectives categorized by age (birth to 5) and domains of developmental tasks (communication, self care, motor and problem solving), for handicapped and nonhandicapped children. (The objectives themselves are listed in a separate volume.) The sub-division of domains into specific behavioral objectives is discussed. The section on implementing the curriculum deals with: (1) writing teaching plans and (2) using the curricular format, together with detailed guidelines for (3) strategies for employing the curriculum, (4) evaluation of whether the objectives have been learned, and (5) reinforcement procedures. The relationship between developmental assessment and the curriculum is explained. Appendices provide forms for lesson plans and goals. (Author/BH)

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Comp Curriculum Guide

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Introduction

1. Q: What materials are in the HICOMP curriculum package?

   A: There are two components to the curriculum;

   a. the Comp Curriculum which is a book of curricular objectives divided by age (birth to 5) and domain (communication, own care, motor and problem solving) and

   b. the Comp Curriculum Guide which is a manual describing the curriculum and how to implement it. Step by step instructions are also given in the use of teaching strategies, evaluation methods and consequation techniques.

2. Q: Which children will benefit from this curriculum?

   A: The curriculum provides appropriate objectives for children from birth through four years. Because of this age range, many basic objectives are included. The inclusion of basic objectives makes the curriculum appropriate for minimally functioning children.

3. Q: Who should use this curriculum?

   A: The objectives and materials will be of use to home-visiting nurses, communication specialists, physical therapists, occupational therapists, social workers, day care workers, preschool teachers, and parents.

4. Q: What should I do to begin using the curriculum?

   A: You should do two things:

   a. Read the curriculum guide. Section One is an overview of the four curricular areas included in the HICOMP curriculum. Section Two suggests general strategies for implementing the curriculum. Section Three describes how children can be

placed in the curriculum based on developmental assessments. Section Four, which is in question-answer format, deals with a teacher's most practical day-to-day concerns in using the HICOMP curriculum.

b. Choose one area of the curriculum, use it according to the guide, then begin to work with the other three areas.

5. Q: How will the HICOMP curriculum assist me in my teaching?

A: The curriculum will assist you in these three areas:

a. planning over-all educational programs for children

b. planning day-to-day learning experiences for children

c. recording and evaluating children's progress.

Section One: The Domains

This curriculum focuses on the normal developmental tasks of pre-school children. We have divided these developmental tasks into four areas - Communication, Own-Care, Motor, and Problem-Solving skills. Note that the general term domains is applied to these four curriculum areas.

Please refer to Figure 1. The HICOMP curriculum applies a special numbering system to its developmental objectives. First, the numbers are preceded by the initial of the particular domain in question, e.g., P for Problem-Solving. Since the objectives are divided into five sets from least difficult (Year 1) to most difficult (Year 5), the domain initial is followed by a number indicating the year booklet into which the objectives falls. Each domain has been divided into a number of sub-domains. Sub-domains may be defined as very broadly conceptualized skill areas, e.g., attention, imitation, recall. The sub-domains are indicated by a number which follows the domain initial and year number; thus, P-3-1 indicates the attention sub-domain under Problem-Solving in the third booklet. Listed under these sub-domains are general objectives. In Figure 1, P-3-1.1 (Attends to teacher during lesson) is a general objective, identified by the third numeral (.1) in its designation. It is from these general objectives that you are to derive the specific goal statements for your lesson planning. Whenever it is possible the objectives within a sub-domain are ordered according to the normal developmental sequence or according to their presumed difficulty.

Figure 1

HICOMP CURRICULUM

Domain--------Problem-Solving Year 3

	Objective Number	Developmental Objective
Sub-domain -------	P-3-1	ATTENTION
Objective --------	P-3-1.1	Attends to teacher during lesson (e.g., head oriented toward teacher with minimal extraneous body motion)
	P-3-1.2	Looks at object(s) for increasing lengths of time (or number of instances) prior to reinforcement when teacher says, "look" and points
	P-3-1.3	Looks at moving object(s) for increasing lengths of time (or number of instances) prior to reinforcement (e.g., toy train, TV, etc.)
	P-3-1.4	Attends to sound(s) by looking in that direction for increasing lengths of time (or number of instances) prior to reinforcement
	P-3-2	IMITATION
	P-3-2.1	Imitates a sequence of two simple motor behaviors involving own body (e.g., pat head, touch nose; or raise hand, clap hands)
	P-3-2.2	Imitates a sequence of two behaviors--one verbal and one motor, e.g., say "hello" and sit down
	P-3-3	RECALL
	P-3-3.1	Indicates object which was removed from a few other objects (e.g., present several objects on tray, then remove one)

Now quickly leaf through the booklets for each of the four domains. Notice the module and objective headings. These will give you a brief overview of the content of each curricular domain, telling you the kinds of tasks you will be teaching.

Now let us look more closely at each of the four curricular domains. You may want to have your book of objectives nearby as you read this brief summary of the content and structure of each domain.

Communication

Within each year of the Communication domain, you will see five sub-domains: language-related play; self-expression; language responding; imitation related to language; and language-related attention.

We believe that these five skill areas are all important for development of communication at each age level. Often communication curricula are only concerned with spontaneous verbal requests (expressive language behavior) and responses to verbal requests (receptive language behavior). While these are of major importance, we have also included other language activities that are developmental in nature. Through verbal play children experiment and practice with sounds and speech. By means of language imitation children reproduce new sounds, words, and sentences. And finally, through improved language attention children learn to listen to the sounds and speech in their environment. In planning to teach communication skills, therefore, you should include targets from all five of these sub-domains.

Own-Care

The Own-Care domain includes a variety of independence skills (both self-help skills and social skills). Here you will find five sub-domains: meeting social conventions and developing values; health, safety, and

personal cleanliness; dressing/undressing; eating/drinking; appropriate and proportional reactions to the environment. Individual families or teachers may have to determine the appropriate age for the acquisition of some skills, especially those involving learning social conventions. We all know that in some households, for example, it is considered inappropriate for a three-year-old to talk with food in his mouth, while in other homes such behavior is quite acceptable. Similarly, in a preschool, you will probably have eating norms for an entire table of children rather than having separate standards for children of each age.

Motor

This domain is divided into three sub-domains: gross motor, fine motor, and oral movement or mouth and jaw control. Consult available specialists for instruction and to coordinate your efforts with theirs.

Problem-Solving

This domain consists of eight sub-domains: attention, imitation, recall, concept formation, grouping, sequencing, application of principles, and creativity. This domain emphasizes a child's application of information, not just the learning of facts and operations by rote. Be sure to teach such higher-level sub-domains as applications of principles and creativity concurrently with more rote-level subdomains, like grouping.

As soon as a child has acquired some basic attention, imitation, and naming skills, these skills can be used in more advanced sub-domains. For example, when a child has learned to label the three primary colors, he can then group objects by color, sequence objects by color, follow a rule about color (e.g., "all people with red shirts stand up"), discover a rule about color (e.g., "all the red fish go in the water").

General Statement

Although the objectives are arranged in year booklets, many children do not develop at the same rate in all four domains. The child's behavioral level must also be located in each sub-domain. Suggestions for entering the curriculum are given in Section Two of this introduction. After you have located a given child's entry levels in the curriculum though, he can usually progress in the sequences suggested by the curriculum. You should keep track of each child's progress in his own set of booklets so that you have an on-going record of your individualized programming for him.

As you become familiar with the curriculum, you will also note that a single objective may be found in more than one domain. This is because achievement of that skill leads to increased competence in both domains. The next several pages provide keys to objectives found in more than one domain. If you use these keys, you can easily credit progress in a second domain when you complete a cross-indexed objective. It should be emphasized that, although the HICOMP curriculum is divided into four separate domains, you will find yourself planning activities that incorporate objectives taken from more than one domain. In Section Three we will discuss this further as we describe how the curriculum fits into your daily planning and teaching.

Key to Objectives from Communication Duplicated in Other Areas of the Curriculum

C-1-1.7 --- P-1-8.6

C-1-2.1 --- O-1-1.1 --- P-1-7.1

C-1-2.2 --- O-1-1.9

C-1-2.4 --- O-1-1.10

C-1-2.6 --- O-1-1.12

C-1-2.7 --- O-1-1.15 --- P-1-3.11

C-1-2.10 --- O-1-1.20

C-1-3.2 --- O-1-3.1 --- P-1-1.1

C-1-3.3 --- O-1-3.2

C-1-3.5 --- O-1-1.13 --- P-1-3.6

C-1-3.6 --- O-1-1.16

C-1-3.7 --- O-1-1.18 --- P-1-3.12

C-1-3.8 --- P-1-4.2

C-1-3.11 --- O-1-1.21

C-1-4.1 --- P-1-2.1

C-1-4.2 --- P-1-2.2

C-1-4.3 --- P-1-2.3

C-1-4.4 --- P-1-2.4

C-1-4.5 --- P-1-2.5

C-1-4.6 --- P-1-2.6

C-1-4.7 --- P-1-2.7

C-1-5.1 --- P-1-1.4

C-1-5.2 --- P-1-1.9

C-1-5.3 --- O-1-1.4 --- P-1-1.2

C-1-5.4 --- O-1-1.6 --- P-1-1.19

C-1-5.5 --- P-1-1.23

C-1-5.6 --- P-1-1.25

C-2-1.4 --- O-2-1.5

C-2-2.1 --- O-2-1.2 --- P-2-7.1

C-2-2.2 --- P-2-7.2

C-2-2.3 --- O-2-1.3

C-2-2.6 --- O-2-1.10

C-2-3.1 --- P-2-4.2

C-2-3.2 --- P-2-4.3

C-2-3.4 --- P-2-4.4

C-2-3.5 --- O-2-1.11 --- P-2-3.4

C-2-3.6 --- P-2-4.5

C-2-3.7 --- O-2-1.8

C-2-3.8 --- P-2-4.6

C-2-3.9 --- P-2-4.7

C-2-3.10 --- P-2-4.8

C-2-3.11 --- O-2-1.14

C-2-3.13 --- P-2-3.10

C-2-4.1 --- P-2-2.1

C-2-4.2 --- P-2-2.2

C-2-4.3 --- P-2-2.3

C-2-4.4 --- P-2-2.4

C-2-4.5 --- P-2-2.5

C-2-4.6 --- P-2-2.6

C-2-5.1 --- P-2-1.1

C-2-5.2 --- O-2-1.4

C-2-5.3 --- P-2-1.2

C-2-5.5 --- P-2-1.4

C-2-5.6 --- P-2-1.5

C-2-5.7 --- P-2-1.6

C-2-5.8 --- P-2-1.7

Key to Objectives from Own Care Duplicated in Other Areas of the Curriculum

O-1-1.1 --- C-1-2.1 --- P-1-7.1
O-1-1.4 --- C-1-5.3 --- P-1-1.2
O-1-1.6 --- C-1-5.4 --- P-1-1.19
O-1-1.9 --- C-1-2.2
O-1-1.10 --- C-1-2.4
O-1-1.12 --- C-1-2.6
O-1-1.13 --- C-1-3.5 --- P-1-3.6
O-1-1.15 --- C-1-2.7 --- P-1-3.11
O-1-1.16 --- C-1-3.6
O-1-1.18 --- C-1-3.7 --- P-1-3.12
O-1-1.20 --- C-1-2.10
O-1-1.21 --- C-1-3.11
O-1-3.1 --- C-1-3.2 --- P-1-1.1
O-1-3.2 --- C-1-3.3
O-1-3.3 --- P-1-1.16
O-1-3.4 --- P-1-1.18
O-1-3.5 --- P-1-3.1
O-1-3.6 --- P-1-8.1
O-1-3.11 --- P-1-8.2
O-1-3.16 --- P-1-8.3
O-1-3.17 --- P-1-8.4
O-1-3.18 --- P-1-8.5
O-1-3.19 --- P-1-8.7
O-1-3.22 --- P-1-8.8
O-1-4.1 --- M-1-3.1
O-1-4.3 --- M-1-3.2 --- P-1-3.2
O-1-4.5 --- M-1-3.3
O-1-4.6 --- M-1-3.5
O-1-4.7 --- M-1-3.4
O-1-4.8 --- M-1-3.6
O-1-4.9 --- M-1-3.7
O-1-4.15 --- M-1-3.10
O-1-4.16 --- M-1-3.8
O-1-4.21 --- M-1-3.9
O-2-1.1 --- P-2-3.1
O-2-1.2 --- C-2-2.1 --- P-2-7.1
O-2-1.3 --- C-2-2.3
O-2-1.4 --- C-2-5.2
O-2-1.5 --- C-2-1.4 --- P-2-3.6
O-2-1.8 --- C-2-3.7
O-2-1.10 --- C-2-2.6
O-2-1.11 --- C-2-3.5 --- P-2-3.4
O-2-1.14 --- C-2-3.11
O-2-1.19 --- P-2-5.3
O-2-3.2 --- P-2-8.2
O-2-3.3 --- P-2-8.4
O-2-3.7 --- P-2-8.5
O-2-4.2 --- M-2-3.2
O-2-4.4 --- M-2-3.3
O-2-4.8 --- M-2-3.4
O-3-4.1 --- M-3-3.1
O-3-4.2 --- M-3-3.2
O-3-4.4 --- M-3-3.4
O-3-4.5 --- M-3-3.5
O-3-4.6 --- M-3-3.6
O-3-4.7 --- M-3-3.7
O-4-4.1 --- M-4-3.1
O-4-4.2 --- M-4-3.2
O-4-4.3 --- M-4-3.3
O-4-4.4 --- M-4-3.4
O-4-4.5 --- M-4-3.5

Key to Objectives from Motor Duplicated in Other Areas of the Curriculum

M-1-2.2 --- P-1-1.21
M-1-2.10 --- P-1-1.24
M-1-3.1 --- O-1-4.1
M-1-3.2 --- O-1-4.3 --- P-1-3.2
M-1-3.3 --- O-1-4.5
M-1-3.4 --- O-1-4.7
M-1-3.5 --- O-1-4.6
M-1-3.6 --- O-1-4.8
M-1-3.7 --- O-1-4.9
M-1-3.8 --- O-1-4.16
M-1-3.9 --- O-1-4.21
M-1-3.10 --- O-1-4.15
M-2-3.2 --- O-2-4.2
M-2-3.3 --- O-2-4.4
M-2-3.4 --- O-2-4.8
M-3-3.1 --- O-3-4.1
M-3-3.2 --- O-3-4.2
M-3-3.4 --- O-3-4.4
M-3-3.5 --- O-3-4.5
M-3-3.6 --- O-3-4.6
M-3-3.7 --- O-3-4.7
M-4-3.1 --- O-4-4.1
M-4-3.2 --- O-4-4.2
M-4-3.3 --- O-4-4.3
M-4-3.4 --- O-4-4.4
M-4-3.5 --- O-4-4.5

Key to Objectives from Problem Solving Duplicated in Other Areas of the Curriculum

P-1-1.1 --- C-1-3.2 --- O-1-3.1
P-1-1.2 --- C-1-5.3 --- O-1-1.4
P-1-1.4 --- C-1-5.1
P-1-1.9 --- C-1-5.2
P-1-1.16 --- O-1-3.3
P-1-1.18 --- O-1-3.4
P-1-1.19 --- C-1-5.4 --- O-1-1.6
P-1-1.21 --- M-1-2.2
P-1-1.23 --- C-1-5.5
P-1-1.24 --- M-1-2.10
P-1-1.25 --- C-1-5.6
P-1-2.1 --- C-1-4.1
P-1-2.2 --- C-1-4.2
P-1-2.3 --- C-1-4.3
P-1-2.4 --- C-1-4.4
P-1-2.5 --- C-1-4.5
P-1-2.6 --- C-1-4.6
P-1-2.7 --- C-1-4.7
P-1-3.1 --- O-1-3.5
P-1-3.2 --- M-1-3.2
P-1-3.6 --- C-1-3.5 --- O-1-1.13
P-1-3.11 --- C-1-2.7 --- O-1-1.15
P-1-3.12 --- C-1-3.7 --- O-1-1.18
P-1-4.2 --- C-1-3.8
P-1-7.1 --- C-1-2.1 --- O-1-1.1
P-1-8.1 --- O-1-3.6
P-1-8.2 --- O-1-3.11
P-1-8.3 --- O-1-3.16
P-1-8.4 --- O-1-3.17
P-1-8.5 --- O-1-3.18
P-1-8.6 --- C-1-1.7
P-1-8.7 --- O-1-3.19
P-1-8.8 --- O-1-3.22
P-2-1.1 --- C-2-5.1
P-2-1.2 --- C-2-5.3
P-2-1.4 --- C-2-5.5
P-2-1.5 --- C-2-5.6
P-2-1.6 --- C-2-5.7
P-2-1.7 --- C-2-5.8
P-2-2.1 --- C-2-4.1
P-2-2.2 --- C-2-4.2
P-2-2.3 --- C-2-4.3
P-2-2.4 --- C-2-4.4
P-2-2.5 --- C-2-4.5
P-2-2.6 --- C-2-4.6
P-2-3.1 --- O-2-1.1
P-2-3.4 --- C-2-3.5 --- O-2-1.11
P-2-3.6 --- C-2-1.4 --- O-2-1.5
P-2-3.10 --- C-2-3.13
P-2-4.2 --- C-2-3.1
P-2-4.3 --- C-2-3.2
P-2-4.4 --- C-2-3.4
P-2-4.5 --- C-2-3.6
P-2-4.6 --- C-2-3.8
P-2-4.7 --- C-2-3.9
P-2-4.8 --- C-2-3.10
P-2-5.3 --- O-2-1.19
P-2-7.1 --- C-2-2.1 --- O-2-1.2
P-2-7.2 --- C-2-2.2
P-2-8.2 --- O-2-3.2
P-2-8.4 --- O-2-3.3
P-2-8.5 --- O-2-3.7

Section Two: Implementing the Curriculum

By this time you are probably thinking that using this curriculum is a sizeable task! Certainly the careful planning of children's learning experiences is time consuming. We hope, though, that this curriculum will make your planning tasks easier. After you have initially located your children within the curriculum, the curriculum provides your subsequent objectives and methods. From the information given in the curriculum, you can more quickly write your weekly teaching plan for groups or individual children.

Writing Teaching Plans

If you are not presently required to make up teaching plans, the task of planning for all four curricular domains may now seem overwhelming. In this case we suggest you begin with just one curricular domain, problem-solving for example. At the beginning of each week, write out goal statements and the settings, strategies, and evaluations you have selected for each group (or child) you teach. (The term setting refers to a variety of physical and social characteristics of the area in which any given objective is taught. In some instances, this term is also used to refer to the child's position and the materials selected for use. Strategies are the teaching methods to be used for getting children to perform the objectives selected for them. Evaluations are the data collection methods used to determine when the child has satisfactorily learned particular objectives. A suggested strategy and evaluation is given for each curricular objective by numbered reference to the Lesson Plan Selector.) A teaching plan for any domain should include four to seven specific target behaviors. This entire plan can be used each day

of the week, though you may wish to vary reinforcement and/or materials. The written plan, then, will cover one week's teaching. Below is a sample of such a teaching plan.

Teaching Plan- Communication

Obj. No.	Objective	Setting	Strategy	Evaluation	Criteria
C-3-1.5	Recites several phrases and performs motions to simple songs or rhymes	Library corner	#8 (Modeling) Teacher recites rhyme	#1 (Checklist) Checklist of nursery rhymes that child repeats	Repeats 3 rhymes
C-2-2.8	Describes or designates an object (e.g., "hot" or "that")	Same as above	#1 (Cuing attention) Teacher cues child's attention toward picture cards emphasizing the modifiers big, little #8 (Modeling) If child doesn't spontaneously talk about pictures, teacher models (e.g., "He threw a <u>big</u> ball	#2 (Rating scale)	Uses 18 of 20 adjectives
C-3-3.4	Answers with first and last name when asked, "What is your name?"	Same as above	#1 (Cuing attention) Teacher says, "Listen" and directs child's head towards him #5 (Verbal prompts) Teacher emphasizes word <u>name</u> in question and begins to say child's name if he does not answer	#1 (Checklist)	Answers with full name 8 times in a row

Obj. No.	Objective	Setting	Strategy	Evaluation	Criteria
C-3-4.3	Imitates sentences of up to 6 words in length	Same	#1 (Cuing attention Teacher says, "listen" #8 (Modeling) Teacher models the entire phrase (e.g., "___ has big shoes")	#1 (Checklist)	Imitates 2 sentences each day during language lesson
C-3-1.7	Grossly matches volume of words and sounds (high/soft)	Same	#1 (Cuing attention) Teacher says, "Listen" and directs child's attention #8 (Modeling) Teacher exaggerates loud/soft pronunciation of words	#2 (Checklist with behavior rating scale)	90% accuracy
C-2-5.8	Attends to longer verbalizations not accompanied by descriptive actions (e.g., the reading of a brief story from a picture book	Same	#1 (Cuing attention Teacher points to objects and actions in the book while reading #2 (Reinforcement) Teacher reinforces by: a) choosing book the child enjoys b) giving hugs, pats, etc.	#5 duration of time attends to story	listens to 5 minutes of a story daily, without talking out or leaving the story group

After you feel comfortable teaching lessons from one domain, add another, and so on, until you are planning lessons based on all four domains.

In addition to guiding you in the preparation of these lessons, the curriculum can also be useful to you as you plan the less structured events in your program. For example, art, music, circle time, and recess activities can and should include curriculum-derived objectives.

Notice that we speak of "lessons" in which you teach particular skills. The term "lesson" refers to an activity that you have structured in order to accomplish specific objectives. We suggest that when you teach children new skills from the curriculum, you employ these lessons in one-to-one or small group situations. You might set aside one hour per day for conducting these sessions. You will use the curriculum booklets for planning them. A suggested lesson plan form appears in Appendix B.

If you do not have time to teach the entire curriculum to specific individuals or groups of children, you might teach parts of it by carefully planning activity centers. For example, in setting up your gross motor area you could provide balls for catching, walking boards for balancing, ladders for climbing. You could post names of children on the wall and check the activities appropriate for them. Teachers assigned to that area would then encourage those children to spend some of their time performing tasks appropriate to their own developmental levels. Of course you may have adequate time and staff to teach the entire curriculum in small groups. If so, staff members could be assigned certain children to instruct or they could be assigned certain domains.

Additionally, it is important that you utilize the curriculum in varied situations. Children should have the opportunity to practice skills in larger group situations, with other teachers, and in unstructured

situations. Anyone using the curriculum needs to be aware of these generalizations. Generalization occurs whenever a behavior learned with certain persons at a certain place at a certain time occurs with a new person or at a different place or time. It may be necessary to specifically encourage generalization by informing others (parents, teachers, therapists) of the objectives and techniques you are currently working on.

Remember then that the implementation of the curriculum spans two types of classroom activities: 1) structured lessons in which new skills are taught, and 2) unstructured activities in which skills are practiced and applied.

Using the Curricular Format

There are eight columns on the HICOMP curricular sheets. These provide suggestions for teaching as well as a format for recording data. You may wish to use all or only some of the columns. At any rate, the rest of this section describes the intended use of each column.

Objective Number	General Objective	

Pretest

The pretest column is used for marking the child's entry level skills. This may be done by linking assessment results to the curricular objectives, as is described in Section III of this guide. When formal assessment means are unavailable, however, staff may informally assess the child's behavior with respect to the curriculum. This can be done by choosing the curricular level corresponding to the child's chronological age (at times you may need to use a year above or below) and planning activities that would survey the objectives within each subdomain. One might assess two or three subdomains each day, observing the behaviors of a number of children. Of course, parents are also a source of information regarding entry skills. Since the staff will naturally become more familiar with the child during the course of instruction, pretesting need not (and should not) be exhaustive. We recommend marking the pretest column using this code:

++ Behavior is consistent and reliable

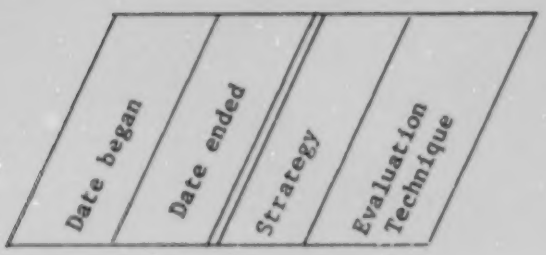
\+ Behavior has been observed, but not consistently

+

- The behavior is partially present or is approximated

- The behavior does not occur

Behaviors coded as +, ±, or - become the long-term goals for that child. Any objective when initially taught might shift only through part of this sequence (i.e., from - to ± or from ± to +) and may require additional planning and instruction to complete the sequence (i.e., to reach the ‡ level). Parents and caretakers/teachers can then determine the best hierarchy for choosing teaching objectives from each subdomain. Once the hierarchy is established, objectives for weekly lesson planning can be easily chosen from this list. However, it is not necessary to work through the hierarchy in strict sequence.



Date Begun/Date Ended

In these columns, you simply record the date when instruction is begun and ended on a particular objective. This provides information on the child's learning rate. If instruction in an objective is discontinued and then renewed, additional dates may be entered in these columns.

Strategies

The term "strategies" refers to the teaching methods to be used for getting children to perform the objectives (e.g., shaping, chaining).

You will notice numbers in the strategy column. We have suggested strategies for teaching each objective. Remember these are suggestions. As you become familiar with the strategies and the curriculum, you may develop your own preferred techniques for teaching given objectives. But by making specific suggestions we can help you as you begin your lesson planning. If you cross-out the number of the suggested strategy and enter the number of your preferred strategy, over time you will be able to evaluate how successful various strategies are in teaching certain objectives.

Each of the suggested strategies is described on the following pages, along with:

a) general guidelines for using the strategy;

b) examples of its use in the various curricular areas;

c) work forms to assist you in using the strategy.

STRATEGY 1: SHAPING

Often we are faced with teaching new, difficult behaviors to children. We cannot simply ask a two-year-old to throw a ball across the room and expect that he or she will then do it. The child will, at first, experience difficulty in aiming the ball in the correct direction and/or in throwing the ball such a great distance. Nor can we simply wait for the child to accomplish such a difficult task, so that we can reinforce its complete performance. We must reinforce small approximations toward the terminal performance of the task. For example, we would at first reward the child for simply throwing the ball. After the child becomes proficient at the first approximation of the task, reinforcement is withheld until the child more closely approximates the desired behavior. Thus, we might tell the child, "Good, but now throw it to me." Then we would only reinforce throws that came toward the teacher.

In shaping, the teacher cannot always predetermine the steps in the shaping process but must watch the child closely and reinforce even slight approximations to the terminal behavior. Some typical shaping sequences are given below:

1. In the communication curriculum we find the following terminal objective: Child repeats proper sentence when teacher says, "Mary, say this, 'Give me the pencil.'"

   The child's typical responses during shaping could precede from

   a) "Pencil"; to

   b) "Give pencil"; to

   c) "Give me pencil"; to

   d) "Give me the pencil."

2. In the own-care curriculum we find the following terminal objective: Upon entering, the child will leave parent and happily join activities. The child's typical responses during shaping might precede through the sequence
   a) child leaves parent, but is in tears;
   b) child leaves parent, but looks sad;
   c) child leaves parent and watches others play;
   d) child leaves parent and walks over to the play group;
   e) child leaves parent and joins an activity;
   f) child leaves parent and happily joins an activity.
3. In the motor curriculum one terminal objective is that the child will walk across the balance beam without falling. The child's typical responses during shaping might begin
   a) child puts one foot on balance beam;
   b) child walks along balance beam with one foot on floor;
   c) child stands on balance beam upon both feet;
   d) child takes two steps and is allowed down.

   The required number of steps would then be gradually increased until the child walks all the way across the beam.
4. In the problem-solving curriculum a terminal objective is that the child will recall four objects that he has been shown. The child's typical responses during shaping would likely be
   a) child recalls 1 or 2 items;
   b) child recalls 3 items;
   c) child recalls all four items.

WORK FORM

Given the terminal objective, state possible steps toward approximation of the objective.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

STRATEGY 2: CHAINING BEHAVIORS

Behaviors can be chained either forward or backward.

Backward chaining involves determining the sequence in which a task occurs and the last step of the sequence. Initially, in backward chaining the teacher does every step of that sequence except the last one and then lets the child perform the terminal step. It is thought that, because this last bit of behavior is closest to being finished with the total chain, it may be learned most easily. When a child can perform that step well, the teacher does everything but the last step and next to last step, leaving those for the child to complete. This procedure continues until the whole sequence can be done by the child. A good example of such chaining might be learning to tie a shoe. The teacher makes the initial tie, loops the loops, and completes all steps in the sequence except for the last pull which tightens the whole bow. The child does this. When he can do it well, the teacher allows him to pass the second loop through the space under the first loop and then to tighten the bow. Thus the child completes tying the bow each time.

Forward chaining also involves determining the sequence of steps in a task and having the teacher initially do every step except one. However, in forward chaining the teacher begins by letting the child complete the first step. The teacher then completes the task. When the child can do the first step well, he is required to do the second step, and so on. Because people do have the ability to use language and remember ideas, starting from the beginning and learning the whole sequence in this fashion may be as effective as backward chaining. For example, in shoe tying the child might initially take the two laces and cross them and later pass the top lace around and under the bottom one. Eventually, he would complete the whole sequence on his own.

WORK FORM

Number the steps of a sequenced task forward or backward depending on the direction you chose to teach them.

_____

_____

_____

_____

_____

_____

_____

_____

STRATEGY 3: MODELING

Many behaviors are taught by having children imitate someone else's (i.e., a model's) behavior. The teacher or another child could model the behavior for the child. Avoid modeling a more difficult behavior than the

one which you wish the child to do. Modeling is generally more effective when the demonstrator is reinforced, when he is like the observer, and when the observer perceives the model positively.

Modeling can also be encouraged in a less direct manner. For example, you could show a film, read a story, or give a puppet show containing behaviors you would like your children to imitate.

It is often helpful to talk to the children about what they are watching so that they can more accurately "model" the behavior when it is their turn to do it.

WORK FORM

1. What is the model: (e.g., book, child, teacher)

2. State the behaviors you will model.

3. How will you keep the child's attention on the model?

INTRODUCTORY COMMENTS REGARDING STRATEGIES 4-7: PROMPTING

The next four strategies involve a technique called prompting. A prompt is a stimulus that the teacher can use to get a specified response. Prompts are used to help children perform tasks that they otherwise would or could not do. However, the eventual goal is for children to perform such tasks without the use of prompts.

In most cases, prompts should be faded (i.e., eliminated gradually) as the child learns the new behaviors. Because of this, there are two

important considerations to be made in choosing a prompt: 1) Choose a prompt that can be easily faded; 2) Choose a prompt that helps the child focus on some significant feature of the task. For example, in teaching children to discriminate between circles and triangles, placing colored dots at the apex of triangles focuses the child's attention on the three points of the triangle.

There are several ways to fade prompts. You can fade the intensity of the prompt. For example, in teaching Peter to recognize his name, one could put a red dot on top of the capital P. This would be the cue. To fade its intensity, the red dot could be made lighter and lighter over trials until it was pink and then lighter and lighter again until it finally blended into the white paper. To fade magnitude of this same prompt, the red dot could be large at first and then get smaller and smaller over trials until it is no longer used. To fade the frequency of this cue, one could begin by presenting the discrimination task occasionally without the cue. As the child came to recognize his name without the cue, the cue would be used less and less often. To fade the duration of the cue, the red dot could be in the form of a light turned on under the paper. When the light was on, the red dot would appear over the P in Peter. The length of time the light was on could then be shortened.

STRATEGY 4: PROMPTING ATTENTION

Before beginning to teach a task one should consider the child's attention. It may be necessary to direct the child to look or to listen before proceeding with the teaching task. There are two basic approaches a teacher can use to get the child's attention on a task. First, the teacher can give a verbal direction (e.g., "Look at me."). Second, the teacher can

arouse interest in the direction of the task. It is usually good to pair both of these strategies. Examples of pairing these approaches are given below:

1. cuing attention toward a visual task

   (verbal direction) "Mary, look at the animal!"

   (arousing interest) the teacher then makes the toy animal tickle Mary's nose.

   Mary is now looking at the animal and the teacher can proceed with the task.

2. cuing attention toward an auditory task

   (verbal direction) "Mary, listen!"

   (arousing interest) the teacher whispers a silly, or talks in a funny voice.

   Mary is now listening and teacher can proceed with task.

WORK FORM

PROMPTING ATTENTION

What kind of attention is required of the child?	What is the direction?	What will arouse interest?
VERBAL		
AUDITORY		

STRATEGY 5: VERBAL PROMPTING

Verbal prompts tell the child what to do. In choosing verbal prompts be sure to keep them short and to use simple words. Some examples of verbal prompts from the curriculum follow.

1. In the communication curriculum:
   a. Children can be prompted to make the "th" sound correctly by the teacher's saying, "Put your tongue between your lips."
   b. Children can be prompted to follow verbal directions by the teacher's emphasizing critical words of the directions with his voice.
2. In the own-care curriculum:
   a. Children can be prompted to brush teeth correctly by the teacher's saying, "up and down."
   b. Children can be prompted to dress in the proper sequence by the teacher's naming the items of clothing to be put on in the correct order.
3. In the motor curriculum:
   a. Children can be prompted to move scissors correctly by the teacher's repeating, "open, shut."
   b. Children can be prompted to build high block buildings by teaching them to respond to the verbal cue, "steady it" after each new block is added.
4. In the problem-solving curriculum:
   a. Children can be prompted to place objects in the correct sequence by the teacher's repeating the sequence.
   b. Children can be prompted to solve problems involving rules by the teachers repeating the rule frequently.

WORK FORM

Beginning with number 1, state the full prompt and its faded steps until eventually no prompt is used.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

STRATEGY 6: MANUAL PROMPTING

In manual prompting, you physically help the child perform the behavior. You "lead the child" through the behavior. In determining which manual prompts to use consider:

1. Only prompts the necessary parts of the behavior. For example, if a child has difficulty steering a tricycle, help him steer, but don't also push the tricycle.
2. Try to do manual prompts from behind so that the child is looking at the task and not at you. For example, with the tricycle, steer from behind so that the child watches the "road" and not you.

Some curricular examples of manual prompting follow:

1. In the communication curriculum:
   a. Children can be prompted to make the "m" sound by the teacher physically pressing the child's lips together.
   b. Children can be prompted to follow directions (e.g., "Put your hand up.") by the teacher moving the child's hand.

2. In the own-care curriculum:

   a. Children can be prompted to "stab" vegetables with a fork by the teacher putting his hand over the child's.

   b. Children can be prompted to wash <u>all</u> parts of their faces by the teacher guiding their hands in the ears, over the eyes, etc.

3. In the motor curriculum:

   a. Children can be prompted to alternate feet by the teacher tapping first one foot, then the other.

   b. Children can be prompted to draw letters correctly by the use of stencils.

4. In the problem solving curriculum:

   a. Children can be prompted to find "missing" objects by the teacher pointing them in the proper direction.

   b. Children can be prompted to count objects one at a time by the teacher manually syncronizing the touching of objects with the saying of numerals.

WORK FORM

List below the full prompt and its faded steps until eventually no prompt is used.

(full prompt)
1. _____
2. _____
3. _____
4. _____
5. _____
(no prompt)
6. _____

STRATEGY 7: VISUAL PROMPTING

In teaching discrimination tasks, such as recognizing numbers, one finds that children are unable to make the correct response. The two stimuli may be so similar that certain children cannot discriminate between them. The visual prompt adds a dimension to a stimulus in order to make it easier to recognize. For example, if a child can't recognize his name on the bulletin board or lockers, a teacher might paste a little picture very near the first letter so that he can find it more easily.

Visual prompts can be used for both simple and complex tasks. Visual tasks can be prompted by changing the color, texture, location, size, etc., of the stimulus. Some sample visual prompts are given below.

1. In the communication curriculum:
   a. Children's attention to story books can be prompted by using books of exaggerated size.
   b. Children can be prompted to point to an object on request, by placement of that object closer to the child.
2. In the own-care curriculum:
   a. Children may be prompted to find their zipper tabs by the addition of a large key chain to the tab.
   b. Children may be prompted to replace their spoons after eating, with a spoon outline drawn on the place mat.
3. In the motor curriculum:
   a. Children may be prompted to alternate feet in walking up steps, by color coding their shoes to match foot prints on the stairs.
   b. Children may be prompted to hold a pencil in the proper position by placement of marks on the child's hand at points where the pencil should touch.

4. In the problem-solving curriculum:

   a. Children can be prompted to discriminate circles from triangles by the addition of color to the circular shapes.

   b. Children can be prompted to group objects correctly by placing pictures of the objects on the containers into which they are to be sorted.

WORK FORM

Beginning with number 1, state the full prompt and its faded steps until eventually no prompt is used.

(full prompt)
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

(absence of prompt)
8. _____

STRATEGY 8: BEHAVIORAL REHEARSAL

This technique consists of having the children practice a given task repeatedly. For example, in teaching children to count to ten the teacher might assemble many sets of objects to be counted and might then have the children count aloud in various voices (roaring like lions, squeaking like mice). At times the technique resembles the good, old-fashioned notion that "practice makes perfect."

At other times we are not merely interested in the repeated practice of the task, but in the situations under which the task is practiced. Often we must teach children skills which are not typically practiced at school, e.g., taking a bus ride. It is usually not possible to take the children on a bus ride daily until they learn to step up, pay the driver, take a seat, etc. These behaviors, therefore, are "rehearsed" in a dramatic play situation until learned. Then the children do take the bus ride using the behaviors they have rehearsed.

At other times we want children to rehearse difficult behaviors in comfortable, behavior-conducive settings. In teaching children to play constructively with wooden blocks the children might rehearse block construction during a small group lesson so that later they will construct during free play period.

One must generally keep the following two points in mind while doing behavioral rehearsal: 1) to shape behaviors as the children rehearse; 2) to liberally use task-imbedded reinforcers so that the repetition of tasks does not become tedious.

WORK FORM

Describe the situation(s) in which the behavior will be practiced.	State the reinforcers you will use.

STRATEGY 9: CLASSICAL CONDITIONING

Classical Conditioning refers to the pairing of one stimulus which does lead to a certain behavior with another stimulus which does not initially lead to that behavior. Often teachers want children to behave in a certain manner on given situations. For example, in level 1 of the communication curriculum is the objective "Laughs when played with." One could teach a child to laugh during play by repeatedly pairing something which already causes laughter (e.g., tickling) with play. Eventually the play situation itself will bring on laughter. A teacher might use conditioning to teach an older shy child to play contentedly in groups by pairing the teacher's presence with the group.

In this technique aspects of the environment become (through pairing) conditioned events for given behaviors. We are teaching an appropriate stimulus. In the case of year 1 objective above, the appropriate response is laughing; the stimulus is play situations. This stimulus would be paired with the tickling stimulus. Conditioning can be used for a variety of objectives. It is frequently used, however, to teach desirable affective behaviors, e.g., being brave, friendly, contented.

WORK FORM

What behaviors are you trying to encourage?

What environmental cue do you eventually want to bring about the behavior?

What stimulus are you pairing that cue with?

STRATEGY 10: QUESTIONING

At times we can arrange for children to engage in certain behaviors merely by questioning them. We might encourage children to engage in empathy, for example, by a question such as, "How do you suppose Mary feels now?" Many of the higher level problem solving skills are also taught through questioning. For example, we encourage children to notice missing parts of objects by asking, "What's funny about this?"

Questioning allows the teacher to "aim" the child's behavior toward a given goal (e.g., being able to state how another might feel, identifying the missing part).

Often questioning alone will be effective in producing the desired behavior. At other times, children will not respond correctly to the question. What should teachers do then? You could, of course, simply tell the child the correct answer and at times this is necessary. Then the child can simply imitate the provided answer.

Another correction technique, however, is to provide the child with a prompt for the answer. This technique is more desirable to use since it still engages the child in more advanced problem solving behaviors. In fact, the teacher should start with a minimal prompt, adding stronger prompts until the child can finally answer the question. If the child cannot answer the question after several prompts, the teacher should provide the answer.

It is wise to plan ahead when using a questioning strategy, so that you will have prompts readily available. Note the example below.

Objective: Solves problems involving memory of a fact.

In this case, the child is to remember that a toy teddy bear is hidden in the mouth of a large cardboard lion. The bear is

hidden as the children watch at the beginning of a 15-minute lesson. Questioning is used at the end of the lesson to encourage the children to recall the fact.

Questioning plan:

1. Primary Question--"Do you remember where the bear is? --- Come whisper the answer to me." (Since the children whisper the answer, all the children are forced to recall the fact independently of their peers.)
2. Prompts (minimal to maximal)--
   a. "Think back to the beginning of our lesson, I picked up the bear and what did I do with it?
   b. "Think of how big the bear is." (Teacher demonstrates its size with his hands.) "Where could I have put it?"
   c. "Could I have put it in something?"
   d. Teacher points to correct side of room. "Did I put it somewhere over here?"
   e. Teacher narrows the location through hand movements. "I put it near here, do you remember now?"
   f. Teacher again uses hand motions to narrow the vicinity. "I put it inside something over here. Do you remember?"

In collecting data on children's responses for objectives taught by questioning it is good to note which children answered correctly on the first question and which children needed minimal or maximal prompts.

WORK FORM

Primary Question:

Prompts (minimal to maximal):

STRATEGY 11: DISCRIMINATION TRAINING

In using discrimination training, the teacher attempts to bring certain behaviors of the children under the control of specific stimuli. Sometimes we are concerned in teaching children to discriminate between two or more stimuli (e.g., to choose the appropriate restroom from the "Men" and "Women" door signs). This might be called a double or multiple discrimination problem since we want the child to behave appropriately in the presence of two or more stimuli (e.g., a girl should enter the door marked "Women" and keep looking when she sees the door marked "Men").

At other times we are not directly concerned with teaching children to discriminate between stimuli. In some instances we want children to discriminate by choosing appropriate behavior in a certain situation, e.g., to say "please" at the lunch table, to walk in the classroom, to sit on chairs during "circle time."

In each kind of discrimination task the teacher trains the discrimination in the following way:

a. by providing distinctive prompts for the correct behavior;

b. by providing many instances for the children to practice and be reinforced for the correct behavior in the presence of the discriminative stimulus;

c. by reducing opportunities for the children to practice the inappropriate behavior in the presence of the discriminative stimulus.

d. by gradually removing any prompts that had to be added to the discrimination, e.g., if a picture of a bee had been placed on top of the letter "B" to teach the name of that letter, the picture should gradually be faded.

Additionally, when you are teaching discriminations between or among stimuli (e.g., when you want the child to say "woman" when seeing a woman, and "man" when seeing a man) you should do the following:

a. first, teach the appropriate response to one stimuli and then teach the appropriate response to the other before finally pairing the two stimuli.

b. begin with easiest discriminations, i.e., pair the stimuli that are most different from one another and gradually move to pairing those that are most like one another (e.g., [when teaching a child to discriminate triangles from circles] pair a red triangle and a blue circle before you pair a red triangle and a red circle).

Two examples of discrimination training are given below. In the first one, a child is taught to discrminate between her printed name and those of the other children in her group. In the second example, children are taught some appropriate behaviors for playing in the block area of their classroom.

EXAMPLE #1

A Step-by-step Approach in Discrimination Training

1. State the problem.

   Susan doesn't correctly identify her name tag on her chair and toothbrush.

2. What do you want the student to identify?

   Susan

3. What other stimuli must the child be able to discriminate this from?

   All other names in her group

4. List these stimuli in the order of maximum to minimum difference from the stimulus you are teaching (e.i., Susan).

   1. Joe 2. Henry 3. Marcia 4. Sally

5. List some stimuli that would even be more different from the stimulus Susan than are these names.

   Colored shapes, animal pictures, lines

6. Order these in terms of maximum to minimum difference from the stimulus Susan.

   a. animal pictures

   b. colored shapes

   c. lines

7. Next, think of stimuli that are not names of children in the group but are very close to the names. List these.

   Individual letters, non-name words, words of similar length, words of similar configuration, other words that start with capitals.

8. Order these from maximal to minimal difference from the stimulus Susan.

   1. individual letters
   2. non-name words
   3. words of similar length
   4. words of similar configuration
   5. other words that start with capitals

9. Write a series of paired stimuli in which the child is to identify Susan by beginning with the order generated above in step #6, then going to the order in step #8, and finally to the order in step #4.

   Some examples of the actual discrimination materials follow. Just a few are given here, although you should have more than one example of each pairing.

What stimuli are being paired (easiest to hardest discriminations)?	What do the teaching materials look like?
1. animal pictures, Susan	Susan "Show me your name."
2. colored shapes, Susan	▲ Susan "Show me your name."
3. lines, Susan	< Susan "Show me your name."
4. individual letters, Susan	Susan B "Show me your name."

5. non-name words, Susan	dog Susan "Show me your name."
6. words of similar length, Susan	jumps Susan "Show me your name."
7. words of similar configuration, Susan (note shape of the words)	Beams Susan "Show me your name."
8. other words that start with capital S, Susan	Short Susan "Show me your name."
9. names of children in group, Susan	Susan Joe "Show me your name."

EXAMPLE #2

1. State the problem.

   The children run, "capture" smaller children, and throw blocks in the block area of the classroom.

2. What is your objective for the students?

   To play in block area without engaging in the behaviors listed above.

3. What distinctive stimuli will you use to prompt the correct behavior?

   In this case the teacher's plan was as follows:

   a) he posted a large sign that pictures the 3 inappropriate behaviors and which had large X's over them

b) he preceded each "free play" period in that area with a pupil-teacher review of the rules about playing there

c) he provided careful teacher supervision and ample verbal reinforcement for rule-following in the block area until appropriate play behaviors were well established. This reduced opportunities for children to practice inappropriate behaviors in the block area and also provided many opportunities for children to practice and get reinforced for appropriate play behaviors.

4. How will you fade the prompts?

The teacher decreased his frequency of reinforcement and reduced how often he was present during play in that area. Further, on some days the poster was not present and the children were reinforced for remembering the rules anyway.

Before planning your discrimination training, please remember that nagging and correcting children is not prompting!

Prompts must come before inappropriate behaviors. If you try to prompt after an inappropriate behavior, you might actually be reinforcing that behavior with your attention.

Appropriate use of prompts. Children have just come to block area to play, and the teacher directs them to the chart, asking, "Do you remember the play rules over here?" The teacher reinforces them for remembering and says, "I'll be watching to see who remembers all morning." As children play the teacher says intermittently, "You sure are remembering not to throw blocks"; "What nice buildings those are"; "You kids are playing so cooperatively."

Inappropriate use of prompts. The children go to the block area to play. One child hits another. The teacher goes over to the children and says, "Are you forgetting our rules? Let's review them."

WORK FORM

1. Teaching a discrimination between stimuli:

   a. List the stimulus and the desired responses.

   b. From what other (if any) stimuli must the child be able to discriminate this?

   c. List these in order of maximum to minimum difference from the stimulus you are teaching.

   d. List several discriminations that would be much easier than these. List them also in order of maximum to minimum discrimination.

   e. List some discriminations that would be harder than those in #d above, but easier than those in #c. Then list these from maximum to minimum difference.

   f. Now make your materials and order them from the easiest to the most difficult discrimination. Be sure to have several examples of each and to alternate the placement of the stimulus being selected (e.g., sometimes place it on left, right, top, bottom, etc., of the card).

2. Teaching appropriate behavior in a specific situation.

   a. State the situation and the desired behavior.

   b. What distinctive stimulus will you use to prompt this behavior?

   c. How will you arrange for practice of the behavior in the stimulus situation?

   d. How will you fade any or all of these prompts?

Evaluations

The term evaluations refers to data collection methods that you can use to determine when a child has learned a given objective. Recommended evaluations for each objective are listed in the curriculum. You may wish to supplement these suggestions or to substitute your own preferred evaluation techniques. The eleven forms of evaluation described here do not represent an attempt to exhaust all possibilities. They may suggest to you additional options.

EVALUATION 1: CHECKLISTS WITH CRITERIA FOR CHECK-OFF

Typically a checklist outlines the behavior of interest to the teacher, and often a simple yes or no is all that is required for evaluation. Can a child remove his coat or not?

The form of this evaluation may be one of simply marking the behavior with a check. However, a plus, minus, or question mark can also provide an easy answer to whether a child can or cannot perform a specific behavior.

Example:

Scissor cutting checklist

Behavior criteria	Yes	No	Sometimes
1. Places finger and thumb in correct scissor holes.	[ ]	[ ]	[ ]
2. Opens and shuts scissors repeatedly.	[ ]	[ ]	[ ]
3. Places scissors perpendicular to paper.	[ ]	[ ]	[ ]
4. Holds paper firmly in place when cutting (i.e., for 3 opening and shuttings of the scissors).	[ ]	[ ]	[ ]
5. Moves scissors ahead after cutting for 3 openings and shuttings.	[ ]	[ ]	[ ]
6. Cuts a line 2" long	[ ]	[ ]	[ ]
7. Cuts a line 4" long	[ ]	[ ]	[ ]

WORK FORM

List target behavior: _____

_____

Break this target behavior into steps using the form below.

Behaviors	Criteria	Yes	No	Some-times

Note: You may want to keep charts such as this posted for children to see their own progress. Smiling faces or stickers can be used in the "yes" column.

EVALUATION 2: CHECKLISTS WITH BEHAVIORAL RATING SCALE

Many times a teacher is not as interested in whether or not a child can brush his teeth, but in how much of that sequence of behavior the child can do. Thus the teacher may devise an evaluation form which gives a range of that behavior, and indicates how far along some continuum of can't-can the child falls. For example the teacher may have such categories as

"Cannot do it," "Beginning to try," "Does it with help," Does much alone," and "Does it without assistance." These ratings could then be used to evaluate such diverse behaviors as putting on one's coat to drawing a picture of a dog. Example:

Cannot do it = 0

Beginning to try = 1

Does it with help = 2

Does much alone = 3

Does it alone = 4

Circle one:

Uses spoon for eating.	0 1 2 3 4
Drinks from cup.	0 1 2 3 4
Picks up food with fork.	0 1 2 3 4

Depending on the time required to learn the tasks, you may wish to rate the behaviors monthly or weekly or . . . .

WORK FORM

Behaviors	Ratings 1st	2nd	3rd	4th
_____				
_____				
_____				
_____				
_____				
_____				
_____				

EVALUATION 3: FREQUENCY OF BEHAVIOR

Sometimes it is important to know how often a child does something. We may want to see how often a child says "Mommy" or names pictures, and we have only to record each time we hear the child say either of these.

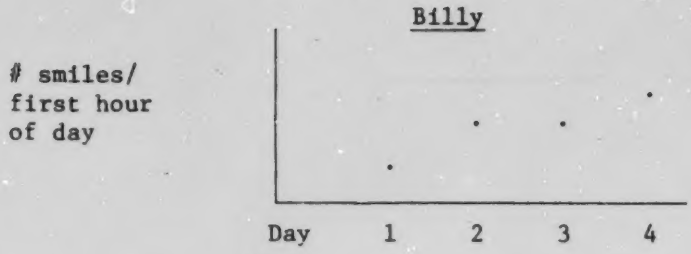
Another kind of frequency count that can be made is termed rate. Here the number of times something happens is counted. That number is then divided by the amount of time the teacher kept track of it.

For example, we may be interested in knowing how often a child says the word "red," but are unable to follow the child around all day. We might take small portions of time, say a minute or two several times a day, and really listen then for what the child is saying. We could add up all the times he said "red," total the number of minutes we spent listening, and then divide the time into the occurrences to determine the rate of his saying the word "red." If we do this for a week or two, we should be able to see if he is saying the word more and more often.

This can be important in looking at behaviors we want to increase, but it is also useful in keeping a record of those we wish to decrease.

Another important use for recording rate is that occassionally a teacher becomes sensitive to a certain behavior and thinks that it is increasing or decreasing when, in fact, it is really staying at about the same level. Taking rate information such as described above may help us to be more objective in our perceptions.

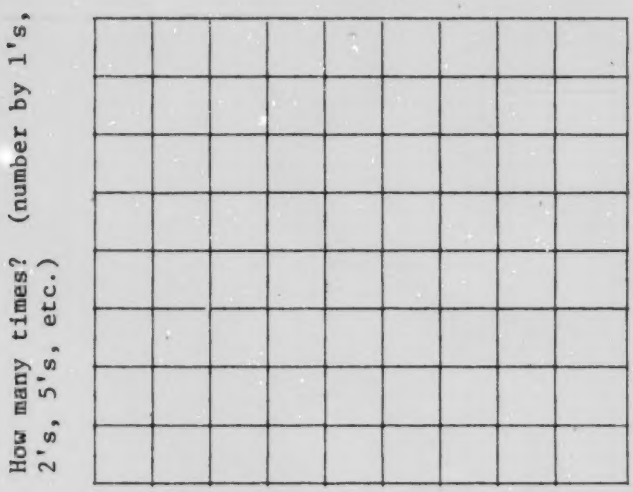
Rates or frequencies may merely be listed or can be graphed to show a "picture" of the behavior. In graphing, the days of the week are recorded along the horizontal line. The events we are counting are recorded along the vertical line.



WORK FORM

Target Behavior: _____

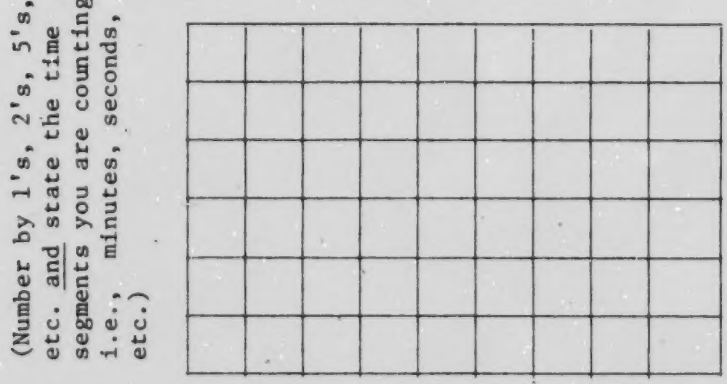
Simple Frequency



Target Behavior: _____

Behavior Rate

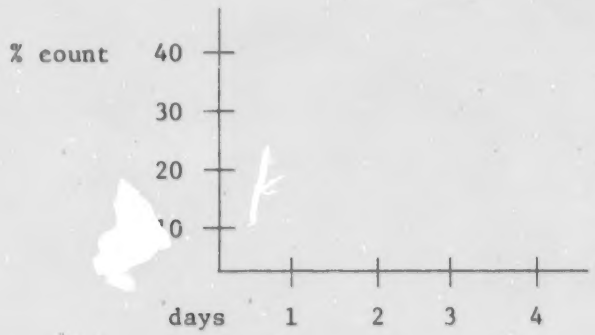
(i.e., record of frequency over given periods of time)


(Number by 1's, 2's, 5's, etc. and state the time segments you are counting i.e., minutes, seconds, etc.)
(Number and indicate days, observations, etc.)

EVALUATION 4: PERCENT CORRECT

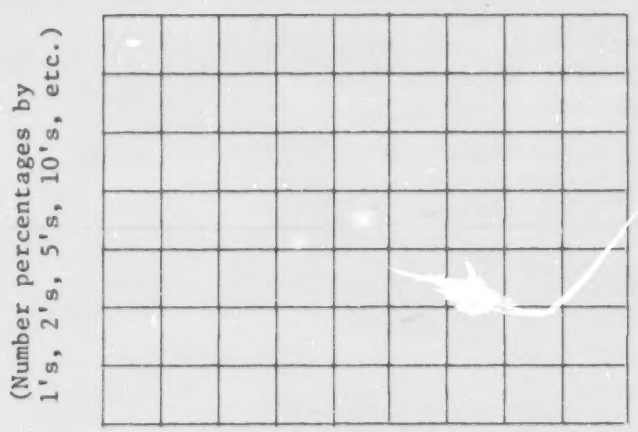
If we are teaching children to count, for instance, we may be interested in knowing how many numbers out of all those that were counted, were counted correctly. Thus, we may write down the number of correct ones, and divide that by the total number of answers which were given. By doing this we can determine what percentage of answers were correct. Over a period of time we can see if the child is making more or fewer correct responses.

Percentages can be graphed. In this case the days are indicated along the horizontal line and the % correct is recorded along the vertical line.



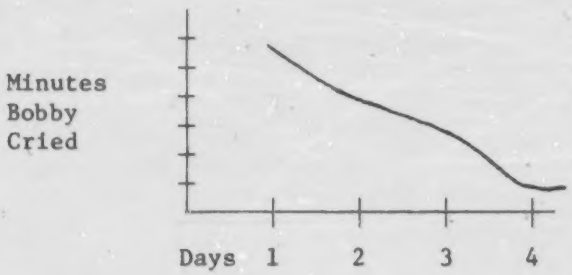
WORK FORM

Target Behavior:



EVALUATION 5: DURATION OF A BEHAVIOR

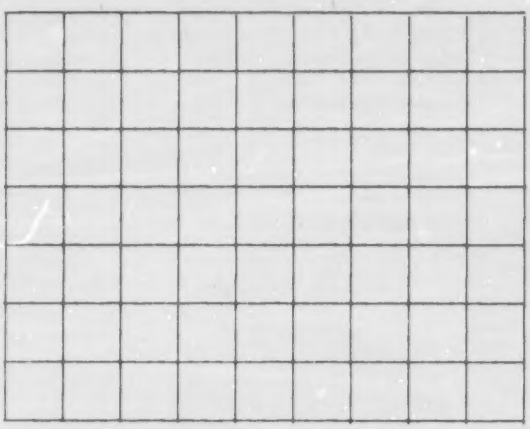
Another way to evaluate behavior is to look at the amount of time a child spends doing it. A stop watch or a clock may allow a teacher to determine how long the child engages in a behavior. For example, if we are interested in the attention span of our children, me might record the amount of time they spend in a given activity and compare times over a number of days. Thus, we could tell whether or not the children were sticking to a task for longer and longer periods of time. Duration may be graphed as below.



WORK FORM

Target Behavior:

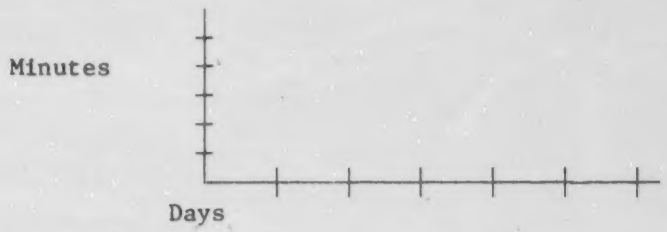
(Number by 1's, 2's, 3's, etc. and state what you are measuring, i.e., minutes, seconds, ...)



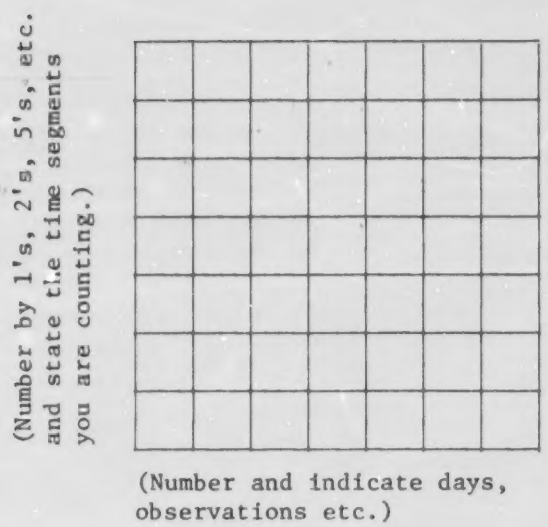
(Number and indicate days, observations, etc.)

EVALUATION 6: MEASUREMENT OF LATENCY

Latency can be thought of as the amount of time it takes a child or children to do what they have been instructed to do. A good example of this is the amount of time between the teacher's initial instructions to "Clean up" and when children begin to put toys away or cease other activities. Outdoor recess might be another place where latency could be measured. How long does it take for the children to come inside after they have been asked to do so? Latency can be graphed as below.



WORK FORM



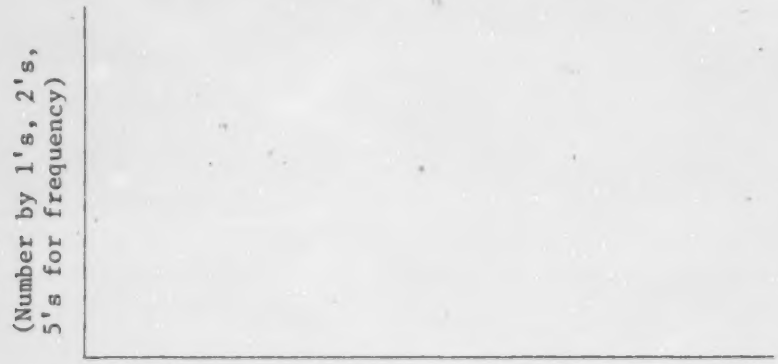
EVALUATION 7: MEASUREMENT OF INTENSITY

The intensity of a behavior is also of interest to us. For example it may be important to decide if the loudness of a child's voice has reached a level which bothers us. We could count the number of times that this happens, and if it seems greater than what is desirable for the classroom, we then might implement a strategy to decrease its intensity.

On the other hand, there are children whose voices cannot be heard more than a foot away. It may be to our advantage to measure the point at which we are unable to hear a child and to employ some procedures to increase the volume of his voice.

WORK FORM

Target Behavior: (including statement of criterion measure, e.g., child speaks loudly enough to be heard by a standing adult)



EVALUATION 8: SIMPLE YES-NO MEASUREMENT

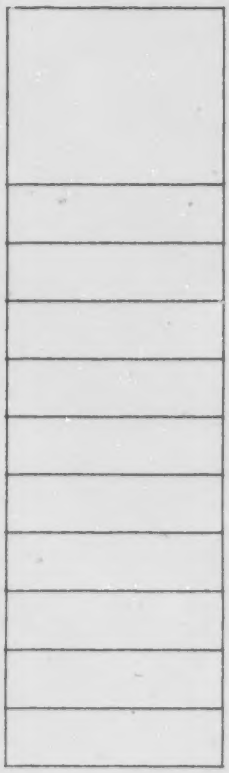
At times we are interested in behaviors that do not happen frequently. a child may only be requested to pick up toys once daily, to use the potty four or five times daily, or to make the bed once a day.

In these cases, a graph may not be needed for recording the behaviors. You might simply hang a chart on the wall and attach a happy face sticker, a star, or other marker each time the child performs the task.

WORK FORM

In this box, write or make a picture of what you would like the child to do.

In these other blocks place stickers or pictures each time the child completes the target behavior.



EVALUATION 9: PICTORIALLY SUPPLEMENTED RECORDING METHODS

Some evaluation methods can be modified by replacing some elements on the recording form with pictures.

For example, along the ordinate on a simple graph one might replace four backchained spoonfeeding steps (i.e., "Step #1, Step #2, ...) with pictures of faces with spoons in various positions.

The data-keeper then puts an X across from the picture which shows the lowest position from which the child can successfully complete a bite. With days, for example, across the abscissa, progress across time can thus be recorded.

In another example, interval-by-interval recording using a kitchen timer and a series of two-choice pictures was used to record the frequency of tantrums.

EVALUATION 10: CRITICAL INCIDENCE METHOD

This method requires the caregiver to record either unusual behaviors as they are noted or the most or least acceptable behavior observed during a preceding time unit. Thus, the method relies upon memory-influenced judgments or a non-representative sample of running notes.

It is, perhaps, useful in determining what child behaviors concern parents and/or teachers and when that registered concern is decreased or

increased. (The child need not be the person whose behavior is manipulated to meet some objectives.) The method is, perhaps, valuable in identifying differentially appropriate and rare optimal behaviors.

For example, a mother might record instances when after-nap checks found dry diapers. She might note that these instances occurred when the child did not ingest liquids for at least one hour before the nap. The mother would then withhold liquids until after naps, using its delivery as a reinforcer for dryness.

EVALUATION 11: ANECDOTAL RECORD

This method simply requires a definition of the type of incidence to be noted and a two-part record sheet upon which each occurrence and its consequences are sequentially listed.

For example, a tantrum might be defined as any instance of crying following a demand placed upon the child or the denial of a request made by the child. In the left-hand column, the parent or teacher would record the occurrence and/or duration of a tantrum. In the right-hand column, the adult simply writes down what his own response was, e.g., "I took him outside."

For evaluation, the anecdotal record is examined to locate changes in how the caregiver is consequating the behavior and concurrent changes in the frequency/duration of the behavior.

Often, when working with a child who has limited adaptive behaviors or who has serious learning problems, you will be shaping emerging behaviors as you teach. It is good to record all of these behaviors in anecdotal form as soon as possible after the teaching session. Anecdotal recording notes the content of the child's behavior rather than its frequency, duration, etc. This content information is useful for at least two purposes: 1) it tells you which behaviors (positive and negative) children engaged in the day

before so that teachers can continue to build on the positive behaviors and pre-empt or be prepared to consequate the inappropriate behaviors; 2) it provides specific information about the child's behavior which can later be coded and used for evaluation, e.g., how many nouns relative to verbs were used by the child.

Anecdotal recordings can be made more systematic and perhaps useful by designing a sheet on which you can organize your notes according to categories of information in which you are interested. The following example was designed for a child who has language problems and who tantrums.

ANECDOTAL RECORD

_____
(child's name)

_____
(observer)

_____
(date)

CHILD BEHAVIORS			TEACHER BEHAVIORS	
words said	words comprehended	words attempted	reinforcers used successfully	events being paired with reinforcers
up *down* *toy* *cookie* *water* *soda*	*wheel* *cup* *come here*	*hello* *hot*	*raisins* *crackers*	*hugs* *kisses* *"good-boy"*

general tasks enjoyed	specific behaviors at those tasks	vocabulary used	situation in which used
playing piano	*playing with 1 finger going up and down keys; humming*	*pour* *splash* *hot* *cold*	*at the sink*
water play	*turning water on pouring from cup plugging sink*		
riding toy giraffe	*"nibbling" giraffe's ears*	*up* *down*	*with blocks in motor area*

OTHER COMMENTS: *He began to watch where the teacher kept the reinforcers.*

CONSEQUENCES

In addition to planning strategies and evaluations for each objective taught, the teacher should also plan what consequences will follow the children's behavior. Consequences can control behavior by increasing it or by decreasing it. We have not recommended consequences for individual objectives within the curriculum, because they must be planned with reference to the actual children being instructed. Any given consequence is more or less appropriate for each child. The teacher should keep a record of the consequences that a child likes or dislikes. In this way the teacher will acquire a list of effective consequences, as well as a record of their use. That record may suggest trying new and different consequences either to avoid satiation or to move in the direction of more naturally available consequences.

The teacher must decide which behaviors should be accelerated and/or which ones should be decelerated. Of course, the teacher will want to accelerate behaviors related to the planned curricular objectives, so he must plan a reinforcer for each objective. In addition, he may need to plan some decelerating consequences for behaviors that are incompatible with achieving the planned objectives. These incompatible behaviors might be head-banging, talking, playing, inattention, and so on.

PLANNING ACCELERATING CONSEQUENCES

At the outset, the teacher must determine which events are already reinforcers for the child. Teachers may identify these by observing frequently chosen activities and objects, by asking the child, or by asking the parents. Teachers should also use reinforcer sampling, e.g., letting the child try a variety of reinforcers. For example, the child's reinforcer might be to choose a treat from a tray on which there is a variety of snacks. Sometimes the teacher can use certain techniques

to increase the probability that a consequence will be reinforcing. Children can be encouraged to engage in new activities by observing others enjoying those activities or by directly participating in them. The most important thing to remember regarding reinforcers, though, is that we determine whether an event is a reinforcer by its effect on the child's behavior. To be a reinforcer, the activity or object must increase the frequency (duration, probability) of the behavior it follows. Therefore, teachers cannot expect that a given event will always be a reinforcer. What is a reinforcer for one child may not be one for another. What is a reinforcer on one day may not be one on another day. Further, precisely because something has just been used as a reinforcer, the child may next require a different reinforcer. Finally, something might have to be sampled by the child (i.e., freely given to the child) before it becomes a reinforcer. The teacher should be continually evaluating reinforcers.

After you have determined which consequences are reinforcing to the child, begin to use these consequences as you teach. Although any identified reinforcer will be successful in increasing the frequency of a behavior, you should strive to make a child's reinforcing consequences as natural and as mature as possible. You can do this by pairing a current reinforcer with a more natural reinforcer and gradually fading the less natural reinforcer. For example, a three-year-old may be reinforced for paying attention by giving him bits of cookie. The teacher can pair the delivery of cookie bits with social reinforcement and then gradually decrease the frequency with which the bits are given until social reinforcement alone maintains the behavior. Teachers should also strive to have the frequency of reinforcement delivery as natural as possible. While you may need to begin teaching certain behaviors with continuous reinforcement, it is wise to gradually

decrease the frequency until the reinforcement level approximates that which the child would receive outside the structured teaching situation. Abrupt changes must be avoided, since they will result in a marked decrease in the child's behavior.

The consequences you discover are likely to be from the following categories.

1. Food reinforcers. Food must sometimes be used as a reinforcer, expecially when children have severe learning problems. In these situations teachers are usually using differential reinforcement and shaping. Here are some points to consider in using food as a reinforcer:

   a. Have the food broken into small bits so that it can be delivered frequently without stuffing the child.

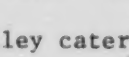
   b. Have two or three kinds of food bits in order to guard against satiation.

   c. Have the food readily available so that the reinforcement is immediate. As soon as you deliver one food bit, get another one in your hand to prepare for the next appropriate behavior. Aprons with three or four pockets expedite food delivery.

   d. Consider the nutritional value (or lack of it) when choosing food reinforcers. Try healthy foods before resorting to candy or sugar coated cereals. Refer to Appendix A for some recipes for nutritious, delicious, bite-sized reinforcers. You might even cook some of these with your children.

   e. Allow the child time to consume the reinforcer, but try to minimize unnecessary delay.

2. Token reinforcement. At times you might want to use a very simple token reinforcement. Token reinforcement is generalized reinforcement,

i.e., tokens can be exchanged for a variety of other reinforcers. Children will not be satiated on them easily. Tokens are easy to deliver and eliminate most of the delay involved in consumption during training. Token reinforcement can also be used to teach children to wait for delayed consequences. For example, if a teacher would like his children to participate in a 15-minute lesson before they go to a play area, he could use a simple token procedure. The children could be shown five little paper circles that make a smiley caterpillar when put together (). They are told that when they have a whole caterpillar, they can go play. Also they are told that they can get caterpillar pieces by sitting in their chairs during the lesson. As the lesson progresses the teacher reinforces the children by giving them caterpillar pieces paired with social reinforcement (e.g., "Good, Mary, you're sitting down."). Upon receiving the last piece (the head) the children are allowed to go play.

3. Activity reinforcement. Teachers can arrange consequences so that behaviors they are trying to encourage are quickly followed by activities that children enjoy. This might be used to reinforce specific behaviors (e.g., after repeating the word "hippopotamus" the child gets to play with a toy hippopotamus) or to reinforce longer chains of behaviors (e.g., after children complete a whole lesson, they get to set up the snack table). One factor to be considered, however, is whether the earliest behaviors of the child are really reinforced by an activity delayed until completion of the chain. Another consideration is whether activity per se is incompatible with the behavior being encouraged (e.g., quiet play, in-seat behavior, visual inspection).

4. Social reinforcement. This includes verbal statements, physical contact, smiles, etc. Teachers should be careful to make these specific

and varied. If a child hears "Good for you!" everytime he does anything, that statement will probably not have much reinforcement value. Save your reinforcement for significant behaviors. Be sincere and enthusiastic and tell the child what you are reinforcing him for (e.g., "Mary, what a fierce crocodile you drew! And you gave him healthy white teeth."). You may be able to enlist the help of a child's peers in reinforcing his appropriate behaviors. In a few instances you may find it necessary to use group consequences for efficiency and/or to utilize peer control, (e.g., "As soon as everyone is quiet, the puppet show will begin.").

5. Task-imbedded reinforcement. In this procedure reinforcers are built into the task. That is, the teacher chooses materials, manner of presentation, and/or content that is already highly reinforcing to the children. It is very important that teachers become skilled in using task-imbedded reinforcement. Learning is fun when the learning tasks are fun! Teachers can make tasks reinforcing in themselves by:

a. using content that is interesting to children (e.g., having them learn songs about animals, having them learn names of dinosaurs);

b. building favorite acitivities into the task (e.g., if children enjoy climbing up a house gym, put picture vocabulary cards on top of the gym and ask them to take turns climbing up and "rescuing" word cards);

c. creating a game-type activity that encompasses the lesson objectives (e.g., going "fishing" for red and blue paper fish and then throwing the red ones back in thus sorting by colors, as well as remembering the rule for sorting.)

In planning task-imbedded reinforcers remember that your planned objectives are of greatest importance. Most of the children's behaviors

during a game or activity should be directly related to the objective. For example, a person might want to use a game as a task-imbedded reinforcer in teaching children to say letter names. The objective being taught is naming the letters a, s, m, and t. Commercially made letter recognition games would be inappropriate to use here, however, because they typically include all the letters and the planned objective (naming a, s, m, and t) would not dominate the activity. Additionally, the children would not be able to name most of the other letters and the activity would not even be a reinforcer. In this case it would be better to modify the commercial game so that it only includes behaviors specified in the objective or to construct one's own game.

6. Self-reinforcement. We can encourage children to manage their own behaviors by allowing them to deliver their own reinforcement. For example, one might put a favorite toy a yard or two away from a child who has just learned to walk or tell an older child that he may go get a snack when he thinks he has cleaned up his locker. We can also encourage children to say good things about themselves by such comments as, "Wow, aren't you pleased with that picture?"; "Doesn't your locker look clean?"; "Pat yourself on the back; that was a hard job!" It may be possible to train a child to monitor his own behavior so that he can call the attention of others to his good work. Even if he is initially inaccurate, focusing his attention upon the counted behavior may increase it.

7. Unspoken approval with feedback and/or assistance. If a child has a history of experiencing an adult's silent attention as approval, it may not be necessary to intervene in (i.e., interrupt) the ongoing flow of a child's activity in order to reinforce his actions. It may only be necessary to maintain proximity and to intervene when absolutely necessary (e.g., when

the child might harm himself or another, when he needs to "try another way," or when he really needs assistance). For example, instead of praising a child for stacking each of 8 rings on a tapered spike or for placing each of 50 pieces in a puzzle, you might watch him with evident interest and comment only to help restructure the task (e.g., pointing out that the big rings fit now, but the little ones don't, or suggesting that the child turn the pieces before trying again to fit it in).

PLANNING DECELERATING CONSEQUENCES

At times you will need to plan decelerating consequences in addition to using reinforcement because a child is engaging in inappropriate behaviors which interfere with your objectives. Be very cautious in planning your procedures for dealing with inappropriate behavior. Choose procedures that are as humane and as natural as possible. The techniques described here are listed in order of preference. Only use the more severe techniques, e.g., punishment, if the less severe ones are not effective. Do not reduce behavior without simultaneously developing appropriate alternatives.

1. Reinforcing incompatible behaviors. Often you can get rid of inappropriate behaviors by attending to and rewarding something that is incompatible. For examples, note the following:

   a. if a child runs too much in the room, reinforce walking,
   b. if a child eats with his fingers, reinforce a fork,
   c. if a child often snatches toys, reinforce waiting for his turn,
   d. if a child cries, reinforce talking, laughing, etc.

This procedure is very important and should be continued even if you must also use another procedure on this list. By reinforcing incompatible behaviors you are giving the child a substitute for the inappropriate

behaviors. This also insures that a child gets reinforced for some behaviors, even if you must use punishment in dealing with the inappropriate behavior.

2. Differential reinforcement of other behavior (D.R.O.). This technique is similar to reinforcement of incompatible behaviors, but it provides even more opportunities for reinforcement. Here, the child is given almost constant reinforcement except when engaging in the behavior being decelerated. This technique is especially effective for beginning programming with children who have severe social behavior problems. You might use D.R.O. with a child who is prone to stereotypic behaviors. The D.R.O. technique allows you to start by giving frequent reinforcement since you needn't wait for any specific behaviors to occur (e.g., you can reinforce anything other than tantrums). Be especially sure to vary the reinforcement when you are giving so much, since satiation could more easily occur under these conditions.

3. Prevention of the inappropriate behavior. This technique involves structuring a situation so that the child is not given an opportunity to practice the inappropriate behavior. You might do this by removing stimuli that precipitate the inappropriate behavior, by gradually shaping the child's tolerance of frustrating situations, and/or by interrupting inappropriate behaviors as soon as they begin. The following examples illustrate this technique.

a. A new teacher found herself in a classroom where children frequently threw wooden blocks at one another. She quickly removed the blocks to a closet down the hall. After several weeks of reinforcing behaviors incompatible with hitting one another (e.g., sharing, playing without fights, reporting problems to the teacher), the teacher gradually brought the

blocks back into the room. At first, they were introduced as parts of lessons on construction, and block play was both restricted and supervised. Gradually, children were allowed more autonomy, but the throwing did not reoccur. We might say the children "forgot" their old behaviors during the time when they didn't have the opportunity to practice block-throwing. During this period they also learned behaviors incompatible with block-throwing.

b. A very young child who had never been away from her mother was to begin nursery school. The child, as you might suspect, cried at the mention of going to school. The teachers decided to structure the situation so that the crying wouldn't occur, rather than to plan a long, unhappy extinction procedure. The child attended school with her mother for two weeks. During the second week she was reinforced for walking with the teacher away from her mother for short periods of time. Beginning with the third week, that same teacher took the child from her mother at the door and then very quickly returned the child to her mother. Each time the teacher took the child, the child was told, "Let's do _____, and then we will go get Mommy." Through chaining the child was taught to engage in more and more activities before going to find Mommy, until she finally remained for the entire day without crying. This gradual shaping procedure precluded the anticipated crying.

c. Another child who very frequently banged his head and threw objects was stopped in a matter-of-fact way by the teacher as

soon as his head began to go down and was only given toys that were fastened down and couldn't be thrown. Meanwhile, incompatible behaviors were reinforced and a D.R.O. schedule was followed. The attempts at inappropriate behaviors decreased and maintained a low frequency.

d. A child who, when alone or with an adult, produced many stereotypic behaviors, such as rubbing his fingernails back and forth on surfaces and rocking with his body, was placed in a much more stimulating environment, i.e., with toys and other children, in which these undesirable behaviors did not occur.

e. A child who chewed his hands and wrists with apparent compulsion and to the point of serious damage was kept from doing so by cloth restraints.

4. Extinction. Extinction involves allowing the behavior to occur without reinforcement. If the above techniques are not successful, you might choose to ignore the inappropriate behavior. Extinction is most successful with those behaviors that used to get adult attention in the past, e.g., whining, nagging, mischievousness. Remember to expect the behavior to increase shortly after you begin the extinction procedure. Tell yourself that "the darkest hour is that before the dawn" and do not revert to reinforcement. After several trials you should start to observe that the inappropriate behavior is decreasing. Before deciding to use extinction, consider these factors:

a. Can you identify and control what seems to be reinforcing the behavior? Sometimes teachers ignore a child's behavior when, in fact, it is not teacher attention but the activity

itself that is reinforcing. In this case allowing the behavior to occur will not prevent reinforcement.

b. If you allow the behavior to occur, will other children model it? If so, you might choose another deceleration technique.

c. Are you prepared to stand firm during extinction? It is good to have a plan of action yourself so that you have something to attend to instead of the behavior being repeated. For example, plan to read a book, work crossword puzzles, or write letters.

5. Punishment. This technique should be chosen last since it is the most difficult for the child, as well as for the teacher. Here are some punishment techniques listed from least to most severe. In using any of these be sure to reinforce concurrently many appropriate behaviors and to pair yourself as little as possible with the procedure (e.g., don't talk a lot as you punish).

a. Punishment by the removal of reinforcers. Some examples of these are:

(1) A child starts to tear a page in a book, so the book is put away;

(2) A child begins to babble instead of imitating during a language lesson, so teacher turns his head away during the babbling;

(3) Three children are pulling and arguing about who had a hat first, so the teacher puts the hat away for that day.

b. Punishment by removal of the child from the reinforcers. In using this procedure of removing the child, be careful that you allow the child to return to the activity only when he is behaving nicely (e.g., don't let the child get up while he is complaining or complaining will be reinforced.) Also, try not to have the child away too long. In order to get an opportunity to reward the incompatible behavior, you should get the child back to the activity. Some examples are the following:

(1) The child messes in his food at the table, so he is set in a chair away from the snack area for a period of time;

(2) The child talks out during story time, so he is removed from the story circle.

c. Punishment by application of some aversive event. Choosing this as a decelerating consequence is a serious decision. At times, however, you may need to do so because nothing else is effective or because you need to stop a behavior quickly. The decision to use this type of punishment should be made together by the child's teacher, parents, and agency director or supervisor. The teacher should supply data on the severity of the behavior, as well as on the lack of success in using other techniques. A plan should be developed for evaluating the effects of the punishment on the undesirable behavior and on desirable behaviors. Provisions should be made for parents to monitor the procedures and data.

If the parents do consent to the technique, follow these guidelines in using punishment.

(1) Provide ample opportunities for the child to receive reinforcement.

(2) Choose a form of punishment that will not easily be noticed or modeled by other children who may be present (e.g., if a child is hitting others, a firm, painful restraint of limbs might be the punishment).

(3) Apply the punishment quickly, consistently, and firmly, yet matter-of-factly. Do not over-react emotionally by withdrawing or threatening to withdraw your general acceptance of the child.

(4) Make a clear statement relating the consequence to the behavior. Do not make general denigrating comments, such as "You're horrible."

(5) Provide a brief rationale for why the child's behavior is unacceptible. Try to select a rationale which might make sense to the child and one that is honest and takes into account his perspective. Be sure not to reinforce the child's misbehavior by talking on and on about your own preferences or distress.

(6) If possible use one warning to stop the behavior (<u>but just one</u>) before applying the punishment. If you use the <u>one</u> warning, the child will probably learn to heed the warning in order to avoid the punishment.

(7) Use the mildest effective form of punishment (i.e., verbal rebuke is generally preferable to physical punishment).

MAKING CORRECTIONS AS CONSEQUENCES

No matter how well-planned your program and lessons are, children will make response errors from time to time. The correction of these errors should follow a deliberate procedure. A good correction procedure should decrease the probability of the child's making the incorrect response again and increase the probability of his making the correct response in the future.

Behavior management strategies give us two principles for planning correction procedures.

(1) Punishment is not a desirable correction procedure, since it is often followed by general disruption of the child's behaviors. This would make it difficult to then teach the child the correct response.

(2) Since behavior is a series of stimulus--response--consequence chains, we find that it is important to practice the whole chain correctly not just the final response. For example, if a child incorrectly labels a picture of a cow as "dog," one would not just have the child say "cow" and then go on to another task. This procedure would make it likely that the child would learn the entire behavior chain with the mistake included. When next presented with that task, he might answer "dog" first, then wait to hear the teacher say "cow," and then say "cow." A better technique would be to tell the child "cow," have him repeat it, and then go back to the beginning of the chain. In this way the child is reinforced at the completion of the errorless chain.

Englemann, Becker, and Thomay[1] have specified a correction procedure related to these principles. The general correction procedure they recommend

[1]Becker, W.C., Engelman, S., Thomay, D.R. Teaching: A Course in Applied Psychology. Chicago: SRA, 1971.

is as follows:

(1) Tell or show the child the correct response.

(2) Have the child practice that correct response.

(3) Reinforce that response.

(4) Go back through the entire behavior chain, prompting the correct response if necessary, but not allowing the incorrect response to occur.

(5) Reinforce the correct response.

Before correcting a child one must try to determine why the child made the mistake. There might be three reasons:

a. because he was not paying attention;

b. because he did not understand what to do;

c. because he did not have the skill or information necessary to respond correctly.

If the child made a mistake because of inattention, the teacher would tell the child the correct answer and have him practice it as described above. Then the teacher would go back further in the task to the point at which he called on the child's attention (e.g., "Henry, listen!"). This attention-getting stimulus should be emphasized and the child reinforced for paying attention.

If the child made a mistake because he did not understand what to do, the teacher was probably using questions or prompts not familiar to the child. In this case the teacher should be certain that his directions are clear, concise, and consistent. Then the teacher should teach the child the appropriate response for the question or prompt. For example, suppose the teacher is trying to get the child to listen while the teacher says a word, but the child says the word with the teacher. If the child doesn't respond

properly to the prompt "listen," the teacher must teach the child to be quiet when he hears the word "listen." The teacher might emphasize the word "listen" and then put his hand to the child's mouth to prevent the child from talking. Other prompts, like pointing to the ear while saying "listen," might also be used.

If the child makes a mistake because he doesn't know or cannot perform the required response, the general correction procedure along with prompts for the correct behavior is adequate.

In cases where an incorrect behavior has caused some damage or intrusion on another person, one might request that the child make some restitution (e.g., he might wipe up the spilled milk or return the items taken). One must be careful, though, that making restitution does not become a reinforcer for misbehavior. This could happen, for example, if the child gets undue attention or prompting while wiping up the milk. On the other hand, restitution should not be used as a punishment, but as the natural consequence of certain misbehaviors.

Generalization

Many times children perform tasks under certain circumstances but not under others. For example, a child buttons her own coat at school but requests help in buttoning at home. Another child identifies colors for the teacher but not for the psychologist. The children have acquired these

skills but have not learned to practice them in varied settings, i.e., the skills have not generalized.

The concept of generalization is of critical importance in planning and evaluating individual educational programs. The competent child can perform skills under varied circumstances. Therefore, our programming efforts must extend from initial acquisition through generalization of objectives.

In order to insure generalization, follow these two steps for each objective that has been acquired.

(1) Assess through observation how well the behavior has generalized to other persons and to other settings.

In assessing generalization to other persons, consider teachers, peers parents, siblings, and other significant persons in the child's life.

In assessing generalization to other settings, consider various activity or learning centers, the home, outdoors, or clinical settings (e.g., speech clinic). Additionally settings may be thought of in such broad terms as times of day (e.g., nap time, meal time) or as activities (e.g., art activity, recess activity).

(2) If the behavior has not generalized to other persons or settings, the teacher/caregiver must engineer the generalization.

You can encourage the occurrence of behaviors in the presence of other persons in the following ways:

a. by prompting others to observe and reinforce the behavior (e.g., children can wear badges that say "I know my colors.")

b. by encouraging children to practice acquired skills in the presence of others (e.g., children who have just learned to tell jokes could "put on a show" for their peers and parents).

You can encourage the occurrence of behaviors in other settings in the following ways:

a. by prompting the behavior in other settings (e.g., when a child has learned to label certain animal pictures, a duplicate set of cards could be sent home to prompt the child to use the new labels at home as well);

b. by seeing that the behavior gets reinforced in numerous settings (e.g., if a child has just learned to walk up steps alternating feet. A teacher might take the child on several short "trips" so that he can practice alternating feet on various outside and inside stairs);

c. by gradually reducing the structure of the task situation (e.g., you will probably begin teaching recognition of letters in a highly controlled setting with minimum distractions, but as the child gains skill you will want to change the setting so that it becomes more similar to normal settings in which the child would be recognizing letters. That is, you might begin letter recognition in an undecorated corner of the room where the child can focus attention on the letter cards, but you would later move from there to looking at letters on classroom lockers, in children's books during story-time, on posters.).

Other ways to make the setting conditions less specific and structured are these:

(1) Vary your prompts for the behavior. For example, if you've taught a child to imitate the teachers words after the prompt "Say it" now begin to vary that expression with "Can you say that?" and "Can you say what I said?"

(2) Encourage children to perform the behavior using materials other than those used during the initial training. For example, if a child has learned to lace on a lacing frame, encourage the child to lace her shoes, the teacher's shoes, and so on.

(3) Encourage children to perform the behavior during other activities. For example, a child has learned to make one cut with scissors during fine motor lessons. Suggest that the child cut the corners off his picture during an art activity, cut the string off a balloon during science, and so on.

Encourage generalization by careful engineering until you observe that the behavior has generalized to other persons and settings.

Section Three: Developmental Assessment/Curriculum Linkages

A Brief Overview

The HICOMP format advocates a "developmental task" approach to assessment and programming. Traditional developmental scales which sample behavior within each domain of the curriculum can be used to provide the basis for an analysis of the child's acquisition of crucial developmental skills. The following measures, among others, might be used:

The Gesell Developmental Schedules (GDS)

The Bayley Scales of Infant Development (BSID)

The Preschool Attainment Record (PAR)

The Denver Developmental Screening Test (DDST)

The Learning Accomplishment Profile (LAP)

Such comprehensive measures can be used to implement a systematic sampling of functional skills across developmental levels and behavioral areas with the objective of determining the specific skill "targets" and behavioral strategies that should constitute the handicapped preschooler's individual goal-plan. Measures should also be selected according to appropriateness to the child's functional level and handicapping conditions.

Traditional developmental scales can be conceptualized and employed as content-referenced measures which sample a range of sequenced, prerequisite skills in language, personal-social, motor and cognitive areas. Similarly, most preschool curricula (HICOMP, Portage, MEMPHIS) contain developmentally sequenced behaviors comparable to those appearing in existing scales. Therefore, a child's pattern of deficits on a series of standardized developmental tasks reflects his individual range of functional capabilities and,

thus, can be used to delineate sets of curriculum entry "target objectives" appropriate to the developmental level which should be stressed in programming. In this way developmental assessment guides and supplements the planning of specific educational goals and strategies. The illustrations presented in Figures 2 & 3 provide a concise overview of the steps involved in linking developmental assessment to curriculum planning and in creating individualized instructional goal-plans from developmental diagnostic results.

The following steps describe in greater detail the sequence of operations involved in "forging" curriculum linkages.

Steps Toward Creating Individualized Linkages: A Guide

STEP 1: Determine the Developmental Level in Each Functional Area.

After appropriate measures have been selected in congruence with curricular objectives a comprehensive developmental analysis can be achieved for each child. Most developmental scales sample both general developmental domains and specific functional skills which are comparable to those commonly included in preschool curricula. Note the correspondence between Gesell domains and HICOMP curriculum areas below:

GESELL SCHEDULES (1940)	HICOMP CURRICULUM (1977)
Language	Communication
Personal-Social	Own-care
Motor	Motor
Adaptive	Problem-solving

As a result of formal assessment, each child can be entered at an appropriate developmental level within each behavioral area of the curriculum. This general developmental analysis reflects the norm-referenced nature and purpose of the developmental scales.

Figure 2

ASSESSMENT-BASED CURRICULUM-ENTRY TARGET LINKS

Child Andy C.A. 43 months

Test Gesell Developmental Schedules Curriculum HICOMP (1977)

TEST PERFORMANCE CEILINGS	LINK INDEX	CURRICULUM-TARGET OBJECTIVES
D.A. = 9-12 mo.	COMMUNICATION	
Orients to sounds consistently	C1-5.2	Head turn to sounds
Eye contact with speaker	C1-5.3	Gaze at speaker
Consistently repeats syllables	C1-1.8	Repeats syllables over/over
Gives objects on request	C1-3.9	Responds to request
Identifies objects when named	C2-3.1	Show me the ....."
Looks selectively at pictures	C1-5.6	Looks at pictures in book
Responds to name	C1-3.7	Responds with recognition to name
Imitates common words	C1-4.4	Imitates familiar words
Speaks 3-4 words	C2-2.4	Uses words in speech
Follows 1-level commands	C2-3.3	Follows simple commands
D.A. = 12 mo.	PERSONAL-SOCIAL	
Reacts consistently to mirror image	01-1.7/.8	Smiles at mirror and reaches
Cooperates in dressing	02-5.1/.8	Helps-pants and limb in arm hole
Cooperates in toileting	02-5.8	Helps push down-pull up pants
Indicates wet pants	02-2.5/.12	Indicates wet pants and need
Toilet/partial regulation	02-2.15	Attempts bowel/bladder control
Eats with spoon-spilling little	02-4.15	Spoon-food to mouth/no spilling
Drinks from cup-no spilling	02-4.9	Drinks from cup-unassisted
Cooperates in washing hands	02-2.3	Tries to wash hands
D.A. = 18 (18-21) mo.	MOTOR	
Kicks large ball	M2-1.12	Kicks large ball (stationary)
Stairs/up-down/holds rail	M2-1.11	Stairs up/down-holds rail
Jumps both feet	M2-1.13	Jumps off floor/both feet
Attempts cube tower	M2-2.1	Stacks two cubes
Formboard/places circle	M3-2.9	Places round obj. in round hole
Imitates horiz./vert. stroke	M2-2.8	Imitates vertical stroke
D.A. = 11-15 mo.	PROBLEM-SOLVING	
Finds hidden objects	P1-3.13/.14	Finds hidden object
Responds to directions "look at me"	P2-1.1	"Look at me"
Attends to verbalizations	P2-1.6	Attends to verbalizations
Goes to correct location	P2-3.4	Goes where told
"Show me the ....."	P2-4.2	"Show me the ....."

Figure 3

ADVANCED ILLUSTRATION FOR
STEPS IN FORGING AN ASSESSMENT/CURRICULUM LINKAGE

1. Determine developmental levels in major areas of functioning.

C.A. - 43 months.....	MOTOR	= 18-21 mo.
	ADAPTIVE	= 11-15 mo.
	LANGUAGE	= 9-12 mo.
	PERSONAL-SOCIAL	= 12 mo.

2. Identify "performance ceilings" in each area of functioning.

Imitates common words	±
Speaks 3-4 words	-
Drinks cup-no spilling	±
Indicates wet pants	-
Jumps both feet	-
Attempts cube tower	-
Finds hidden objects	±
Goes tc location	±

3. Match performance ceiling tasks to curriculum target-objectives in each area of functioning.

TEST	CURRICULUM
Imitates common words.....	Imitates familiar words
Speaks 3-4 words.....	Uses words in speech
Drinks cup-no spilling.....	Drinks from cup-unassisted
Indicates wet pants.....	Gestures for wet pants & toilet
Jumps both feet.....	Jumps off floor/both feet
Attempts cube tower.....	Stacks two cubes
Finds hidden objects.....	Looks for object out of sight
Goes to location.....	Follows direction to go to location

STEP 2: Identify Performance Ceilings in Each Functional Area.

The norm-referenced determination of developmental levels described in step 1 is a common process. However, the content-referenced or character of most developmental scales is frequently overlooked, i.e., the sequence of prerequisite tasks within each behavioral area. Capitalizing on this sequence for diagnostic-prescriptive purposes, one should next determine a child's individual "performance ceilings" in each area of functioning. Specifically, identify those developmental tasks which the child failed to complete (-) or which were marginally completed (±) within his particular developmental maturity levels. This sequence of ceilings then delineates a range of absent or partially-acquired functional skills. Such ceilings may subsequently be viewed as prerequisite or curriculum-entry "targets" which need to be stressed in programming. In essence, one conducts a rudimentary item analysis of each child's developmental performance.

STEP 3: Match the Test Ceiling Tasks With Similar Curriculum Objectives

Completing the "linkage" between developmental diagnostic results and appropriate curriculum entry objectives is an important task. Since existing scales were not primarily designed as prescriptive instruments, no clear one-to-one relationship exists between all test tasks and all curriculum objectives in any curriculum. However, the developmental sequencing of common psychomotor, language, and personal-social behaviors within both scales and curricula enables a large number of practical linkages to be accommodated.

The creation of links for specifying individual instructional targets is accomplished by matching those test tasks which were failed (-) or partially completed (±) with similar objectives at certain levels within the preschool curriculum being used. The match is determined on the basis of task similarity and behavioral demand, i.e., on the physical similarity

between the task and the curriculum objective content and on the kinds of response behaviors required of the child in order to complete a task successfully. For example, repeating a 3-digit number sequence and repeating numbers from a model are both essentially imitative memory tasks requiring a verbal response from the child.

The product of this matching procedure is a sequence of individually-appropriate curriculum-entry target objectives for each child in all major functional areas. This set of assessment-based instructional targets is congruent with the child's functional levels and handicapping conditions.

Figure 4 provides an example of a pragmatic "linkage" between developmental assessment results and individual instructional goal-planning. The Gesell Schedules with its comprehensive behavior sampling, wide age range (4 weeks-72 months), and its potential adaptability can be very useful in educational planning. Essentially, on the basis of a child's performance on the various developmental tasks, the highest level of skill acquisition (maturity levels) in each developmental domain is determined and a sequence of "performance ceiling tasks" is delineated. These ceilings are then viewed as a series of prerequisite, curriculum entry targets which need to be stressed in programming in order to help the child acquire more complex developmental skills within the instructional sequence. Moreover, similar objectives from the HICOMP Curriculum are then matched with the Gesell "performance ceilings" to complete the linkage and the individual prescriptive plan (Figure 2). Figure 4 serves to illustrate the Linkage process.

Follow-up

After programming and training have begun, the child's individual progress is monitored by curriculum-based checklists and behavioral analysis. More global assessment by norm-referenced developmental scales can then

*	GESELL PERFORMANCE CEILING TASKS	- ±
L	follows prepositions	-
	uses 5-word form-modifiers	±
	uses personal pronouns	-
	imitates 6-10 syllable form	-
PS	buttons/unbuttons	-
	toilet dry at night	±
	washes hands/face-independently	-
	emerging associative play	±
H	walks on tiptoe	-
	stands 1 foot- 2 secs.	-
	imitates cross form	-
	builds bridge form	-
A	identifies and describes pictures	-
	identifies and names colors	-
	counts 1-10 and up	±
	groups as to color, size	-

*	HICOMP CURRICULUM SEQUENCE (1977)
C	responds with correct prepositions
	uses sentences of 4-8 words
	speech elaborated with personal pronouns
	imitates 6 syllable form and elaborated combos.
O	buttons and unbuttons
	toileting bowel and bladder
	wash and dry/face and hands
	sharing play in small groups
M	walks on tiptoe
	balances on 1 foot 2-3 seconds
	draws cross-imitates adult
	builds bridge imitated
P	names objects and events
	points to and names secondary-primary colors
	counts 1-10 and up
	grouping and sequencing

ASSESSMENT---------- LINK ----------CURRICULUM

CEILING/TASKS TARGET BEHAVIORS

MATCHING CURRICULUM ENTRY OBJECTIVES

CEILING BEHAVIORS		CURRICULUM MATCHES
Language ceiling tasks	C3-8.5 C3-4.3 C4-2.6	Matching Communication target objectives
Personal-social ceiling tasks	O3-5.2/.6 O3-2.1 O3-2.6 O3-3.2	Matching Own-Care target objectives
Motor ceiling tasks	M3-1.1 M4-1.2 M3-2.7 M3-2.5	Matching Motor target objectives
Adaptive ceiling tasks	P2-4.5 P3-4.2 P4-6.6 P3-6.8	Matching Problem-Solving target objectives

serve to provide supporting evidence of the child's progress. When classroom teachers charted the progress of 20 children over a period of 3-4 months using the HICOMP Curriculum as a content-referenced assessment device, these measures correlated at .93-.99 ($p < .01$) with progress as measured using the Gesell Developmental Schedules.

Section Four: Specific Information

Planning Over-all Educational Programs for Children

1. Q: How do I assign children to the appropriate year and objectives?

   A: There are three ways:

   a. placement because of a developmental delay as identified in a testing procedure such as one described in this guide

   b. placement based on an informal assessment of skills in the listed objectives for the child's appropriate chronological year

   c. placement based on a combination of the method listed under letter "b" above and a similar informal assessment done by parents

2. Q: How many objectives do I choose to work on at one time?

   A: If you are working with a single child, begin with four objectives, one from each curricular domain. Add objectives until you are working on at least one objective from each sub-domain.

   If you are teaching children in groups, begin with one domain, and then add the remaining domains one at a time. You should eventually be drawing objectives from all sub-domains, as well as from all four domains.

3. Q: What do I do with the curriculum after locating the initial objectives?

   A: The curriculum becomes an over-all educational plan for each child. It also constitutes a record of your work with each child and of his progress. After teaching the initial objectives selected within a particular domain, progress in sequence through the rest of that booklet. In some cases children may already have achieved some of the subsequent objectives. You may skip or pass quickly over these

4. Q: Since each child has a set of curriculum objectives, must I plan and teach the objectives to children individually?

   A: No, few of us are fortunate enough to have that much time! Consider these points:

   a. In many cases you might group children who are at similar locations in the curriculum. On the other hand, you can vary your lessons slightly to include a range of abilities, e.g., in a language lesson some children might be requested to name animals others to repeat the names. During problem solving some children might be requested to count alone to 20, others to count alone to 10, others to join the group in counting to 10. In some cases you might also direct a group activity toward meeting objectives for a particular child. If a child needs to learn animal names, you might often read animal stories at circle time.

   b. As you become more familiar with the objectives, some will suggest one-to-one settings whereas others will suggest group instruction.

Planning Day-to-Day Learning Experiences

1. Q: Will I need any special physical arrangements as I begin to use the curriculum?

   A: No, although you may want to set off a particular corner of the room for your more direct group or individual lessons. Having a special area for lessons helps children to focus on the appropriate activity.

2. Q: What is a "lesson"?

   A: The term "lesson" refers here to an activity that you have structured in order to accomplish specific objectives.

3. Q: What is a "lesson plan"?

   A: A "lesson plan" details how you plan to teach the objectives you have chosen. A good lesson plan has five parts:

   a. a listing of the objectives for the children

   b. a description of the setting used in teaching the objectives

   c. a description of the strategies to be used

   d. a recording and evaluation procedure for each objective

   e. a reinforcement and correction strategy

4. Q: How will the curriculum help me write lesson plans?

   A: The curriculum provides three basic kinds of information that you can use in planning lessons:

   a. general objectives - In most cases you will need to analyze or specify the given task further. (See Table 1.)

   b. strategies for getting the behavior desired

   c. evaluation techniques

5. Q: How often should I write lesson plans?

   A: Probably once a week is often enough. Basically, you will need new plans each time you proceed to a new objective. As you repeat lessons, vary them by using different materials and reinforcers. You can assure that varied consequences are provided a child by keeping a record of these in the curriculum.

6. Q: How long should a typical lesson be?

   A: You might spend ten to twenty minutes depending on the tasks and the children.

7. Q: How many objectives should be included in each lesson?

   A: Four to seven will be adequate; at least enough to cover each subdomain.

Table 1.

Examples of Derivation from General Objectives

Example #1.

P-4-3.2 "Recites verbal sequences from day to day" becomes "Children recite their street, town, and zip codes."

Example #2

P-4-5.1 "Groups objects which vary in a single dimension" becomes "Groups pictured sets of 1 and 2 objects in containers numbered one (1) and two (2)."

Example #3

The necessity and/or the extent of the task analysis is dependent on the skills of the particular children being taught. Some children may be able to learn complex tasks by imitation - others will require a step-by-step training procedure.

P-4-6.2 "Reproduces a sequence of objects from a pictured display." This task might be broken down further into the following component parts and each part taught as an objective until the whole task can be completed:

1. Each child attends to and points to the pictured model when the teacher says, "Look at this, touch the row of blocks on the card."

2. Each child looks at and points to the sequence from left to right by moving his fingers along the arrow under the pictured sequence.

3. Each child indicates which block is first, then second, then third by pointing to appropriate blocks on his pictured display.

4. Each child labels the blocks and the pictured blocks by color name.

Table 1. Continued

5. After following the teacher's direction for reproducing the first two blocks of the sequence, the child completes the sequence by placing the last block. (For example, the teacher may say, "Point to the first block. What color is it?" "Red." "Now find a red block and place it under the red picture. Point to the next block. What color is it?" "Green." "Find a green block and place it under the green one in the picture. Point to the last block. Find one like it and make your blocks look just like the picture."

6. Child completes last two steps in sequence independently.

7. Child completes all three blocks in the sequence independently.

8. Child sequences four blocks independently.

9. Child sequences five blocks independently.

10. Child sequences two to five shapes independently.

11. Etc. (i.e., sequencing other objects, such as, animals, numbers, letters.)

Notice that task analysis is not merely a sequence of the behaviors that the child must do in completing the task, but rather that it includes specific, isolated skills such as attending to the proper stimulus (the pictured model), labeling the concepts involved (colors of blocks), following instructions using specific verbal labels (first, second, etc.), correctly sequencing movements (touching picture from left to right), sequencing the entire task (this is begun in step 5 with guidance until teacher help is attenuated and task difficulty increased in steps 6-9), and that finally the entire task, once learned, is practiced with other stimulus conditions (other objects to be sequenced.).

8. Q: Why is it necessary to plan so many objectives?

   A: There are several reasons for planning many objectives:

   a. Varying a lesson keeps children more attentive.

   b. Daily practicing of skills for short periods of time helps to review and consolidate learning.

   c. Teaching several objectives related to each other enhances learning (e.g., in Communication, teaching a child to say "dog," to identify dogs, to bark like a dog).

   d. Teaching several objectives permits inclusion of objectives suggested by parents. (E.g., in Own-care, you may include telephone manners in a lesson on greetings because of parental interest.)

9. Q: How do I teach the curriculum objectives to particular children, yet manage the rest of the class?

   A: There are several possible answers to this question:

   a. If you have more than one teacher, one can do individual or small group instruction while the other manages the remaining children.

   b. Again with more than one teacher, all teachers can be assigned to groups of children. At certain times of the day children will be instructed in these groups.

   c. When there is just one teacher--

      1) Cover as many common targets as possible in large group activities.

      2) Teach independence skills so that you can spend short periods of time with some children, while others work independently.

3) Plan group activities that encompass a variety of objectives. In a given art activity you might be teaching some children to trace, but others to cut, paste, draw, or match colors.

Recording and Evaluating Children's Progress

1. Q: How do I use the materials for reporting children's progress to parents and others?

   A: You can share the curriculum at parent conferences. You can report the percentage or number of targets learned within a given period. Such a report gives parents information on the child's rate of learning as well as what he has learned.

2. Q: When should I stop working on any given target?

   A: You will notice that we have not suggested criterion levels for the objectives in the curriculum. These criterion levels should differ among individual children, e.g., a child with certain motor problems simply may not be able to throw a ball as far as a child with no handicapping condition. You must set individualized criterion levels. In many cases you will teach a given objective until you reach a 100% criterion level before going on to the next objective. E.g., you would probably teach a child to recognize the color red with 100% accuracy before beginning to teach another color.

   With other objectives, however, you might go on to a new objective before reaching nearly 100% criterion. This is especially true when objectives are not interrelated (as color naming ones are). Many of the more difficult objectives (such as telling time) will require a great deal of lesson time and practice before children

reach 100% criterion. It might become quite boring for the children and taxing for the teacher to persist only at this concept until a 100% criterion is reached. Therefore, the teacher might stop after the third or fourth objective is reached in the task analysis, then go on to another objective, returning to telling time after two or three weeks in order to proceed further up the task ladder. This periodically returning to a task and continuing further into the sequence of that task is known as spiraling through the curriculum.

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Appendix A

Examples of Reinforcers[1]

Food

Buy these:

1. whole-wheat pretzels
2. small pieces of fresh fruits (dried ones stick to teeth) -- apples, grapes, pears, melon, bananas;
3. fruit-flavored yogurt;
4. cheese;
5. small pieces of peanut butter and jelly sandwiches on whole-grain bread.

Make these:

1. Honey-Nut Balls

   1/2 cup sesame seeds
   1/2 cup sunflower seeds
   1/2 cup carob powder or cocoa
   1/2 cup homemade peanut butter or crunch-style commercial peanut butter
   1/2 cup honey

   a. Mix all ingredients except sesame seeds.
   b. Rub a little butter on your fingers and shape the candy into small balls.
   c. Roll candy balls in sesame seeds until coated.
   d. Chill until firm.

2. Peanut Butter Balls

   1/2 cup peanut butter
   1/3 cup non-fat dry milk
   1/4 cup honey
   1 teaspoon vanilla
   shredded coconut

   a. In a bowl, mix everything except coconut.
   b. Butter your fingers, shape candy into small round balls.
   c. Roll candy in coconut.
   d. Chill in refrigerator until firm.

---

[1]Several suggestions by Judith A. Wade have been included here.

3. Golden Cheese Wafers

1 cup whole-wheat pastry flour
1/4 pound cheddar cheese
1/4 pound chilled butter
1/4 cup sesame seeds

1. Grate cheese and chilled butter into a mixing bowl. Add flour and sesame seeds. Work all ingredients together with your hands until dough is formed.
2. Divide dough in half and roll into 1 1/2 inch logs. Chill 1 hour.
3. Slice logs into 1/2 inch wafers and arrange on a cookie sheet. Bake in preheated 350° oven 10 minutes, or until pale gold.
4. Serve warm from the oven or cold.

4. Most any cookie recipe can be fortified with ingredients such as whole-grain flour, oatmeal, wheat germ, bran.

Simple Pictorial Token Systems--in which earning a certain number of tokens equals some reinforcer.

1. Children earn paper cut-out pieces until a picture is completed. These pieces may be hung on a wall (paired with the child's name), put on the floor in front of the child, stuck to a card the child holds or wears. E.g.:

a) parts of a teddy bear

b. face parts of a jack-o-lantern

c) petals of a flower

d) paint colors for an artist's palette

e) vegetables for a soup bowl

2. Children might also earn actual tokens (e.g., poker chips) and trade them in for activities or privileges. To assist children in determining prices of reinforcers, you might make a reinforcer menu with pictures of reinforcers and outlines under each picture for the purpose of matching tokens to costs.

Activity Reinforcers

1. Water play.
2. Sand play.
3. Cooking.
4. Using "adult" objects and machines (e.g., cameras, ovens, record players, jewelry).
5. Games.
6. Eating.
7. Any playing, manipulating.
8. Hiding from teacher.
9. Taking a turn at being the "teacher" for a given task.

Social Reinforcers

1. Pats, squeezes, hugs, winks, blowing kisses.
2. Getting called on to "show" or "tell" or help.
3. Statements of approval--(e.g., "Good work.", "That's an interesting building.", "What neat writing.", "You thought of that answer really quickly!", "You are really silly.", "I like that.", "What a smart kid!", "Thank you for sharing.", "I'm so glad that you remembered to tell your mother.")
4. Having work displayed in hall, on bulletin board, etc.
5. Stars, badges, name placed on a good workers list.

6. Notes sent home to parents, praising child's accomplishments.
7. Photograph placed in local newspaper.
8. Specific accomplishments of individual children in newsletters.

Task-imbedded Reinforcement

In the communication curriculum--

1. Talk about persons, silly happenings, etc., that are amusing to children,
2. Dress up for dramatic play.
3. Encourage children to request items they actually like, e.g., "I want the hampster."

In the own-care curriculum--

1. Add interesting objects (e.g., decals, bells) to combs, toothbrushes and so on, to make using these more fun.
2. Allow children to use adults' possessions at times (e.g., button the teacher's coat, use the vacuum sweeper).

In the motor curriculum--

1. Provide interesting targets for children's motor behaviors (e.g., "Put the ball in the lions mouth," "Ride your tricycle over the (pretend) mountain.")
2. Use imaginative dramatic play episodes for practicing motor skills (e.g., to get children to crawl on their stomachs have them pretend to be crocodiles in the Nile!)
3. Allow older children to receive data-based information on their own skills so that they can try to "beat" their own performances (e.g., mark off lines for broad jumps, time running, etc.).

In the problem-solving curriculum--

1. Teach labels that are of immediate interest to the child (e.g., label pizza toppings as you are making pizza).
2. Teach simple concepts within an interesting context (e.g., to teach basic shapes, go "fishing" or on a "treasure hunt" for circles, squares and triangles).
3. In teaching rule-following behaviors, make the components silly (e.g., use a rule like, "If your teacher sneezes, tickle.")

Self-Reinforcement

1. Have any "race" with a finish line. The child can pick up the reinforcement at the finish line. The "race" could be derived from any curricular area:
   a. communication--6 boxes containing objects or pictures are placed between starting line and finish line. The child has to go to each box and name the contents.
   b. own-care--have a litter pick-up race. The child picks up all pieces of litter between starting and finish lines; when he arrives at the finish line he puts on an ecology badge.
   c. motor--children jump to finish line and take a jumping-bean to play with.
   d. problem-solving--have a "treasure hunt" with picture or word clues telling children where to go next. They get to eat the treasure at the end.
2. Lay out two or three tasks for children to do in order of least favorite to most favorite. Encourage them to do them in order.
3. During meal times encourage the children to first eat a little of a food they dislike, then one they like.

4. When giving children a difficult task, let them choose what they would like to do when they are finished.
5. If your days run on a regular schedule with which the children are familiar, plan to have a reinforcing event available (e.g., cupcakes arrive) just at the time that clean-up is usually scheduled. As the children express interest in this reinforcing event say "But what should we do first?" Hopefully, they will say, "Pick up toys." but if not prompt that response.

Appendix B

A Lesson Plan Form

Objective Number	Specific Objective	Setting	Strategy	Materials	Evaluation	Comments

Appendix C

Year 1

Child's name _____

Annual Goals:

Objective Numbers	Accomplished	Objective Numbers	Accomplished	Objective Numbers	Accomplished

Domain's	Personnel Responsible	How to Contact Him or Her	Date Services Began	Duration
Communication				
Own-care				
Motor				
Problem Solving				

Signatures: _____ parent(s) _____ teacher(s) _____ supervisor(s)

date: _____

Year 2

Child's Name _____

Annual Goals:

Objective Numbers	Accomplished	Objective Numbers	Accomplished	Objective Numbers	Accomplished

Domain's	Personnel Responsible	How to Contact Him or Her	Date Services Began	Duration
Communication				
Own-care				
Motor				
Problem Solving				

Signatures: _____ parent(s) _____ teacher(s) _____ supervisor(s)

date: _____

Year 3

Child's name _____

Annual Goals:

Objective Numbers	Accomplished	Objective Numbers	Accomplished	Objective Numbers	Accomplished

Domain's	Personnel Responsible	How to Contact Him or Her	Date Services Began	Duration
Communication				
Own-care				
Motor				
Problem Solving				

Signatures: _____ parent(s) _____ teacher(s) _____ supervisor(s)

date: _____

Year 4

Child's name _____

Annual Goals:

Objective Numbers	Accomplished	Objective Numbers	Accomplished	Objective Numbers	Accomplished

Domain's	Personnel Responsible	How to Contact Him or Her	Date Services Began	Duration
Communication				
Own-care				
Motor				
Problem Solving				

Signatures: _____ parent(s) _____ teacher(s) _____ supervisor(s)

date: _____

Year 5

Child's name _____

Annual Goals:

Objective Numbers	Accomplished	Objective Numbers	Accomplished	Objective Numbers	Accomplished

Domain's	Personnel Responsible	How to Contact Him or Her	Date Services Began	Duration
Communication				
Own-care				
Motor				
Problem Solving				

Signatures: _____ parent(s) _____ teacher(s) _____ supervisor(s)

date: _____

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(Here you may wish to code the various settings used for instruction within your program, e.g., 1 = language area; 2 = motor area; 3 = story corner.)

Code	Setting
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	